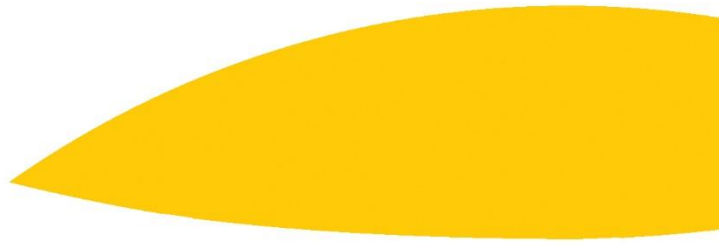


# Sustainability Report 2018



Consolidated non-financial report  
pursuant to **Legislative Decree 254/2016**  
(Directive 2014/95/UE)

  
iren



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# Sustainability in Iren:

## Highlights 2018



### ENVIRONMENT

- 2,451,198 tonnes of CO<sub>2</sub> avoided
- 558,037 TOE saved
- 87% of electricity produced by environmentally friendly sources (renewable or similar)
- 64.3% separated waste collection on average (national average 55.5%)
- 34.8% water network leaks on average (national average 40.7%)
- IrenGO for electrical mobility
- over 20,600,000 plastic bottles avoided due to “Acquapubblica” water distribution points



### VALUE

- 4,041 million Euro of revenue
- 447 million Euro of investments
- 1,363 million Euro of added value for stakeholders
- 0.084 Euro of dividend per share proposed by the BoD

### CUSTOMERS

- 1,924,771 customers in the energy sector
- 2,829,798 inhabitants served in the integrated water service, 2,320,687 in environmental services and 868,130 in district heating
- 73 service counter positions and around 585,000 customers served
- 2 million call centre responses
- approximately 90% of customers satisfied
- over 790,000 parameters analysed in drinking water and waste water
- 4.2% electricity network leaks (national average 6.5%)
- 46% electricity substations checked
- 81% gas networks inspected
- 85% district heating networks inspected



### IREN PEOPLE

- 99% of employees have a permanent contract or an apprenticeship contract
- 313 new hires
- 95% of employees attended at least one training course
- 1,807 women work within the Group and make up 46% of the BoD



## SUPPLIERS

- 725 million Euro of orders issued
- Local suppliers account for 51%
- 28 social cooperatives work with Iren
- 1,000 hours of training for third party companies
- 779 suppliers involved in the survey on environmental and corporate responsibility

## COMMUNITY, LOCAL AREAS AND INSTITUTIONS

- 53 projects by the Local Committees for sustainability
- 1,208 profiles registered on the Irencollabora.it platform
- 267 projects supported in favour of communities
- workforce, vehicles and economic resources to support communities affected by disasters
- 9 Trade Unions at a national and international level
- employee training on corruption prevention
- balance between tariffs and investments in the local area for the Integrated Water Service

## SHAREHOLDERS AND FINANCIAL BACKERS

- +195% growth of the Iren share in the last 4 years
- growth forecast of around 10% annually for the dividend per share
- Fitch Rating “Investment Grade” BBB with stable outlook
- second Green Bond of 500 million Euro for 12 environmental sustainability projects
- 165 investment fund managers met

## FUTURE GENERATIONS

- approximately 78,900 students and over 560 schools were involved in Edu.Iren educational offers
- 60 didactic projects
- 110 plants opened to students and citizens
- 170 companies participated in the “Iren Startup Award”
- 7.5 million euro for innovation and research projects
- 20 million Euro in three years for the “Iren Up” corporate venture capital programme



## LETTER TO THE STAKEHOLDERS

Once again this year, the 2018 Sustainability Report is a chance to show how fundamental it is for our Group to measure its results, in terms of performance and the impacts produced, in order to provide a clear and complete vision of our ability to create value. In fact, for years we have considered measurement to be an important aspect of governance, necessary to set sustainability objectives that are integrated within the Business Plan and, with reference to the financial statements, to offer our stakeholders transparency and allow us to identify areas of improvement, also when compared to other industry players.

The Business Plan to 2023 includes Iren Group's five priority areas for sustainability: decarbonisation, circular economy, water resources, resilient cities and people. We have defined specific objectives and targets for each of these areas, providing evidence of the results achieved, also through the Sustainability Report.

### **Decarbonisation**

The reduction of climate-changing emissions saw us involved in many initiatives in 2018: from highly-efficient renewable energy production, to systems for reducing the energy consumption of production processes and the promotion of energy efficient services for various target customers. The results of these initiatives have proved significant: compared to 2017, we have reduced our direct energy consumption by 3% and achieved total savings of over 558,000 tonnes of oil equivalent. CO<sub>2</sub> emissions from production processes fell by approximately 3%, while over 2.4 million tonnes of CO<sub>2</sub> have been avoided. We have also strengthened our traditional production vocation, with 87% of electricity produced from renewables and similar sources, compared to a national average of 35%. The results are even more significant if we consider the extension of the Group's perimeter, which are partly recognised by the Carbon Disclosure Project 2018, which awarded Iren an A- evaluation, the only multi-utility out of the top ten Italian companies ranked.

### **Circular economy**

For Iren Group, the cornerstones include the increase in separated waste collection, the extension of the exact pricing system, the increase in material recovery and energy from non-recyclable waste.

At the end of 2018, separated waste collection within the area served by the Group reached 64.3%, compared to a national average of 55.5%, and is now in line with the 65% objective set by the European Union for 2035. Some areas, with separated waste collection figures of around 80%, are the best in Italy, as is the figure of 7% growth for separated materials per resident compared to 2017. The door-to-door systems, which were implemented for over 1.4 million residents (+6% compared to 2017), are the most widespread means of separated waste collection from residents, with positive effects on the reduction of waste production and the quality of waste recovered as material. Furthermore, in 2018, energy generated from waste was used to meet the annual needs of approximately 210,000 families.

### **Water resources**

For the sustainable use of water resources, we focused on the outstanding quality of water networks and on the reduction of water withdrawal from the environment, increasing treatment system quality. Thanks to targeted action, we have cut water consumption for production processes by 2.5% compared to 2017. Investments and works on the water networks allowed for reductions of 2.5% of water withdrawal from the environment for drinking water distribution, within the same perimeter compared to 2017, with a consequent saving of 400 tonnes of oil equivalent. We have also worked to improve our purification capacity and put "clean water" back into nature by upgrading and renewing our plants, which currently amount to more than 1,300. To this we can add important projects to save resources, for example, recovering treatment water for irrigation, which enabled us to reuse approximately 6 million m<sup>3</sup> of resources (+10% compared to 2017) for high quality crops.

## Resilient cities

To increase the resilience of cities, in 2018 we invested in the extension of the urban district heating system, reaching 93.7 million m<sup>3</sup> in volumes served, up by 8% compared to 2017, with a subsequent positive impact on city air quality. Due to the modernisation of the public street lighting, in medium and large-sized municipalities, we have enabled the local communities to reduce their energy costs and save 3,000 tonnes of oil equivalent (TOE), in addition to a saving of over 1,130 TOE from the redevelopment of the heating systems of 100 public buildings. We launched an electrical mobility programme with the IrenGo project, which offers a vast range of services to customers and citizens and contributes to making our vehicle fleet more sustainable, increasing the number of electric vehicles of the fleet by 55% compared to 2017.

## People

Development of skills, flexible and smart organisation, and structured talent & performance management processes. These are the pillars defined by the Group for the development of “Iren people”, achieving significant results in 2018.: the hiring of 313 new employees (72% of which were under the age of 30), significant investments in training, which involved 95% of the more than 7,000 employees, and over 300 people taking part in the smart working trial project.

For Iren Group, “People” means being able to offer services that meet the needs of customers and citizens. This is a priority that also produced important results in 2018, such as the overall satisfaction of 90%, thanks to the hard work of the 1,807 women and 5,235 men within our Group and the constant growth of our investments (+25% compared to 2017), which exceeded 447 million Euro during the course of the year.

People also means a focus on local consequences: from the external effects of the supply chain to projects that produce positive impacts for communities. In 2018, Iren Group issued over 725 million Euro in orders (+7% compared to 2017), providing for over 60 sustainability education projects, involving over 560 schools, and was at the forefront of over 260 cultural, sporting and environmental initiatives, with an investment of over 9.5 million Euro.

Furthermore, 2018 also marked a leap in terms of development and efficiency for the Group, which enabled us to achieve a generated and distributed added value of 1,363 million Euro, up by 7% compared to 2017.

We believe that the framework of results from 2018, detailed in the pages of this Report, has prospective importance on several fronts: it confirms our ability to create value for the stakeholders with whom we maintain a close and continuous collaborative relationship, as well as through the Local Committees. It demonstrates our real contribution to the sustainable development goals of the UN's 2030 Agenda and other national and global policies and documents our sustainability strategy for the present and the future.

The Chairman  
Paolo Peveraro



The Deputy Chairman  
Ettore Rocchi



Chief Executive Officer  
Massimiliano Bianco



# NOTE ON METHODOLOGY

The 2018 Sustainability Report of Iren SpA, referring to the period 1 January – 31 December 2018, also constitutes a consolidated non-financial statement (NFS), pursuant to Italian Legislative Decree no. 254/2016.

The document was prepared under the coordination of the Corporate Social Responsibility Department and Local Committees, in compliance with the Global Reporting Initiative (GRI) standard: comprehensive option and the Utility supplement of the electricity sector – G4 Sector Disclosure.

The data are reported through the “Sustainability Report – NFS” application which facilitates the tracking, verification and approval of all required data.

The Sustainability Report/NFS is prepared annually by Iren Group (the 2017 report was published in March 2018) and approved by the Board of Directors together with the draft of the Statutory Financial Statements and the Consolidated Financial Statements.

The 2018 Sustainability Report/NFS was approved by the Board of Directors’ Meeting held on 12 April 2019.

The document was subject to review by the appointed auditor PricewaterhouseCoopers S.p.A. pursuant to Italian Legislative

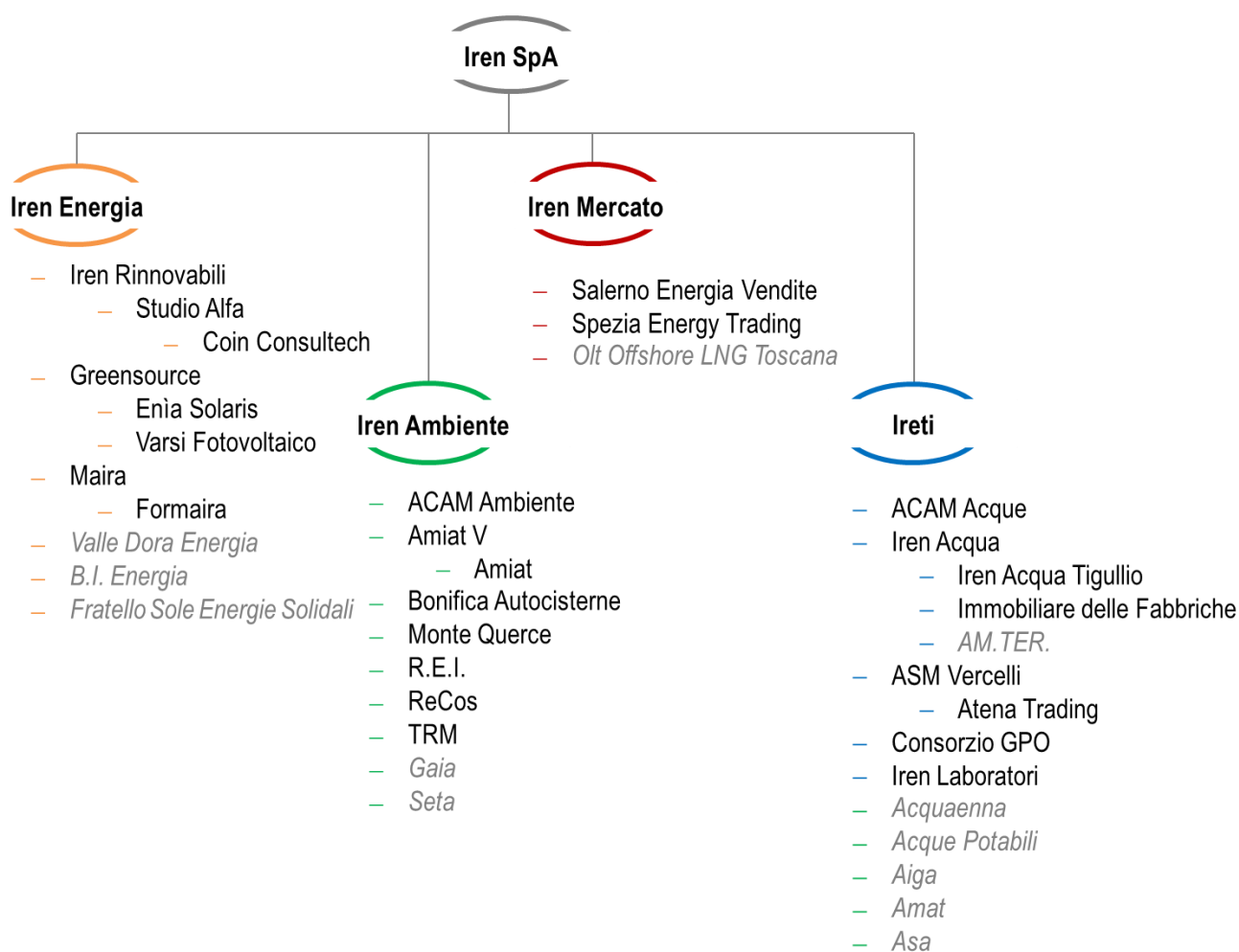
Decree 254/2016 based on the principles and indications contained within ISAE3000 (International Standard on Assurance Engagements 3000 - Revised) of the International Auditing and Assurance Standard Board (IAASB).

PricewaterhouseCoopers S.p.A. is also the company appointed for the legal auditing of Iren Group’s Consolidated Financial Statements.

## SCOPE OF REPORTING

The scope of reporting for the preparation of the Sustainability Report/NFS is indicated in the table below and takes into consideration:

- all of the fully consolidated companies of Iren Group, with the exception of those in liquidation as at 31/12/2018, sold or destined to be transferred;
- the qualitative and quantitative information for certain not fully consolidated companies (indicated in grey italics in the table below), given separately in the “Companies Outside the Perimeter” section (see page 21), for the purposes of presenting a correct representation of the Group’s activities. They are significant due to the equity interest held, the business managed and governance.



Legend: in gray and italics the companies not fully consolidated, considered relevant for sustainability



Compared to 2017, changes to the scope of reporting concern:

- the **entry** of Acam Ambiente, Acam Acque and ReCos (consolidated from 1 April 2018), Spezia Energy Trading (consolidated from 1 September 2018), Maira and Formaira (consolidated from 30 September 2018), SETA (subsidiary since 17 October 2018) and Fratello Sole Energie Solidali (subsidiary since 6 September 2018);
- the **transfer of control** of Iren Rinnovabili and its subsidiaries (Studio Alfa and Coin Consultech), Greensource and its subsidiaries (Enia Solaris and Varsi Fotovoltaico) and B.I. Energia to Iren Energia;
- the **merger by incorporation** as of 1 March 2018 of TRM Holding and TRM V into Iren Ambiente;
- the **leasing of the business** unit of SEI Energia from 6 September 2018;
- the **expansion of the perimeter** to the following companies: Gaia, Acquaenna, Acque Potabili, Aiga, Amat and Asa.

Any limitations in regard to the scope of the Sustainability Report/NFS are duly indicated, as well as any restatements of the data related to the previous two-year period. It should be noted that, generally, the data referring to certain companies reported in this document for 2018 refer to the consolidation period of these companies by Iren Group, and in particular:

- Acam Ambiente, Acam Acque and ReCos from 1 April to 31 December 2018;
- Spezia Energy Trading from 1 September to 31 December 2018;
- Maira and Formaira from 30 September to 31 December 2018.

In order to guarantee the reliability of the information provided, the report includes directly measurable quantities, thus limiting the use of estimates as much as possible. Estimated quantities are indicated as such. The calculations are based on the best information available or on sample surveys.

## MATERIALITY

The materiality analysis is the assessment of the significance attributed to topics by Iren Group and its stakeholders, which become subject to reporting in this Sustainability Report. This underlines the connection of the relevant topics with the Group strategy and ensures that requests for information of the various stakeholders are taken into consideration. The materiality analysis process conducted by Iren Group is a dynamic process that is carried out in various stages:

- **desk review:** identification of the spectrum of potentially significant topics through the analysis of Italian Legislative Decree 254/2016, the GRI standard and other publications, national and international sustainable development targets, the Group's Strategic Plan, the Memorandum and related sustainability objectives, the financial and sustainability reporting of the Group, previous materiality analysis, customer satisfaction surveys, media analysis and peer and competitor sustainability reporting;

- **internal engagement:** sharing and assessing potentially significant topics by the first line of the Group management in order to identify relevant topics for Iren;
- **external engagement:** sharing and assessing potentially significant topics by Iren Local Committees in order to identify relevant topics for stakeholders. The 93 Associations/Institutions that participate in the Local Committees represent the main categories of stakeholders of Iren Group: consumers/customers, employees, suppliers, institutions, shareholders, environment, local communities and future generations;
- developing the **materiality matrix** that defines the topics reported in this document;
- approval of the results of the materiality analysis by the Board of Directors on 28 January 2019.



The materiality analysis conducted in 2018 confirmed the relevance of the topics identified in collaboration with stakeholders, for the development of the Iren Group in 2017.

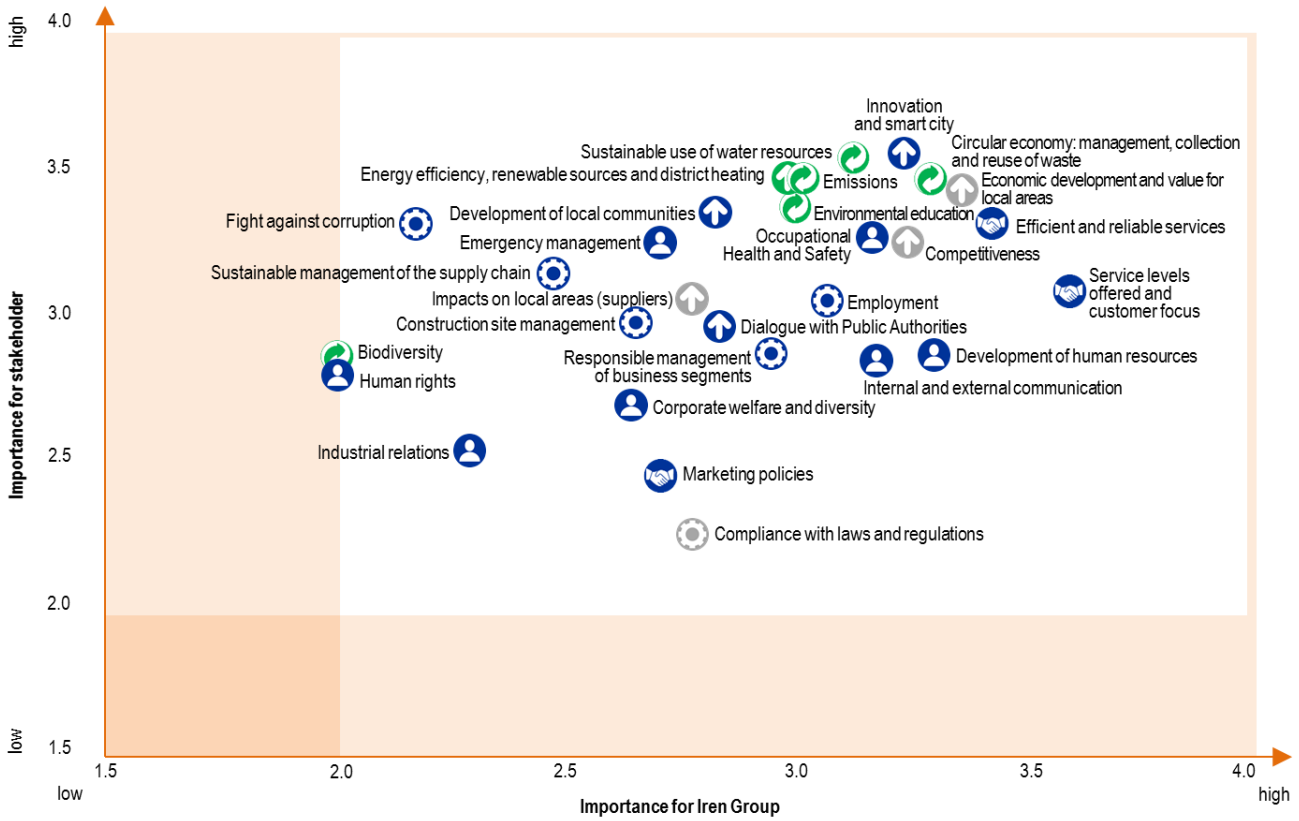
In 2018, some of the identified topics recorded a different assessment linked to the trend in national scenarios and the Group's development plans. Specifically, given the social and environmental relevance:

- the stakeholders and the Group have increased their assessment of the topics of "innovation and smart cities" and "management of construction sites" compared to the past;
- for stakeholders, the assessment of the "value and economic development for local areas", "industrial relations", "corporate welfare and diversity", "development of local communities", "dialogue with public authorities" and "management of emergencies" topics also increased;
- the Group has increased the value given to the topics of "biodiversity", "emissions" and "occupational health and safety", while, in consideration of the management improvement projects implemented, it reviewed the previous assessments for "fight against corruption" and the "management of emergencies".

The materiality matrix provided below highlights the topics identified as relevant and establishes them in relation to the strategic pillars of Iren Group, intersecting them with the topics indicated in Italian Legislative Decree 254/2016 and additional topics held to be relevant by the Group and its stakeholders.



## MATERIALITY MATRIX



### Pillars of the Iren Business Plan

- customers (handshake icon)
- development (upward arrow icon)
- efficiency (gear icon)
- environmental sustainability (circular arrow icon)
- people (person icon)

### Topics of Legislative Decree 254/2016

- environmental (green circle icon)
- social (blue circle icon)

### Other relevant topics



The relevant topics are developed within the chapters of the Sustainability Report/NFS. In order to guide the reading of the document, the material topics covered are indicated at the beginning of each chapter.

The materiality connotations of each material topic for Iren Group and its stakeholders are highlighted below. Furthermore, the

material topics are influenced by the Sustainable Development Goals (SDGs) set by the UN for 2030.

For certain SDGs, the Group has defined specific objectives and targets in its 2023 Business Plan, which are described in more detail on page 35.



Energy efficiency, renewable sources and district heating



These form the cornerstones of Iren Group's energy policy. In fact, the Group defined important objectives in its development plan in order to conserve natural resources, in particular energy resources, and reduce greenhouse gases, thanks to the extension of district heating and to a production capacity of which 87% derives from renewables and other similar sources. Moreover, due to the implementation of innovative processes and technologies, Iren is committed to guaranteeing high levels of energy efficiency in the management of its activities and for the local areas in which it operates.



### Sustainable use of water resources



The rational use and protection of water are issues of great importance for Iren Group, both in its production process and in its management of the integrated water services for millions of residents. That is why the Group has defined objectives regarding the quantity of water resources withdrawn and the quality of waste returned to the environment in its development plan, representing key factors for sustainable management.



### Emissions



Within its strategic guidelines, Iren Group has defined objectives to guarantee a steady reduction of its atmospheric emissions by using “clean sources” of energy generation and by applying the best available technologies and the most controlled processes in the productive cycles. The Group is particularly focused on controlling CO<sub>2</sub> through emission reduction and the increase of avoided emissions by using renewable sources, district heating and obtaining energy from waste.



### Circular economy: management, separated waste collection and reuse of waste



Responsible management allows waste to be used as a resource and in energy production, reducing the need for disposal, the consumption of natural resources and the production of emissions. Iren Group manages its own waste and that of local communities following the principles of prevention, sustainability and safety in an approach aimed at ensuring effectiveness and maintaining low costs. Dialogue and a constant flow of information on the topic with Institutions and residents is essential, as is the training provided in collaboration with schools and universities.



### Biodiversity



Protecting biodiversity and habitats is important for Iren Group and it has activated processes of collaboration with Organisations, Institutions and Associations on this topic. The Group also operates in order to guarantee that the activities performed in protected areas are compatible and sustainable for the environment and for the maintenance of its natural balance.



### Environmental education



Iren Group believes that education is the most effective and strategic way to consolidate a culture of sustainability and innovation. Informed residents contribute significantly through their consumption choices and behaviour, improving the social and environmental impact of services, even by directing them towards new strategies. That is why Iren invests in its relationships with schools and universities to prepare for the future.



### Innovation and smart cities



Iren Group is focused on an open and operational innovation model that is applicable to all businesses. The aim is to improve service quality, building relationships between material infrastructures and human capital, both intellectual and social, thanks to the use of new technologies in communication, mobility, environment and energy efficiency, in order to improve quality of life and meet the needs of residents, companies and institutions. All actions are strongly focused on the local areas in which the Group works, collaborating with Local Communities to develop smart cities.



### Development of local communities



This is one of the pillars of growth for Iren Group, which identifies the focus for progress and the creation of shared value in the current and future local areas of reference. Improving people's quality of life, making businesses more competitive, looking to the growth of local areas through the eyes of change and making development and sustainability a single value. The Iren Group's vision is to make this future a reality.



### Dialogue with Public Authorities



Relations and dialogue with Public Authorities, and more generally, with local politicians, play a critical role for the activities of the Group and for addressing and outlining governance strategies in relation to energy and the environment, producing impacts for local areas and for the entire country that are increasingly efficient and sustainable. Dialogue is therefore constant, in line with respective roles.



### Employment



In the current economic context, employment is of extreme social importance and represents a crucial factor for Iren Group that sees fundamental capital for growth in its human resources. Maintaining adequate employment levels, skill coverage and development and the quality of employment are essential for pursuing corporate strategies.



### Industrial relations



The topic contributes to creating the best conditions for guaranteeing Iren Group the development of a business model that aims to involve and enhance human resources, in order to increase the efficiency and quality of services and the capacity to address market challenges with efficient and innovative solutions. Therefore, industrial relations must be developed in accordance with a participatory, non-conflictual model, while respecting the various roles.



### Occupational health and safety



Iren works to ensure the health and safety of personnel in the performance of their jobs and to improve the work environment, also in order to increase motivation and engagement of personnel and to guarantee continuity in production processes. Strengthening the culture of prevention and risk assessment represents a constant commitment of the Group.



### Development of human resources



Professional growth is essential for Iren Group in order to anticipate and successfully address the complexities and changes of the market, regulations and technologies. Iren invests to increase its in-house skills portfolio and enhance its human resources using specific policies, methods and tools. Its commitment to discovering, developing and promoting personnel skills is a fundamental part of the agreement between the company and the individual.



### Corporate welfare and diversity



One of Iren Group's commitments is the reconciliation of life needs with work needs, improving the quality of the work environment and promoting diversity within the company. The aim is to become a team, to add value to the outcome of individual work and increase a feeling of belonging, creating shared social, cultural, professional and intellectual terrain.



### Human rights



Iren Group considers the UN's Universal Declaration of Human Rights, the International Labour Conventions and Recommendations issued by the International Labour Organisation and the Earth Charter to be fundamental points in the definition of its values. The Group condemns any kind of discrimination. Personnel must always behave respectfully towards others with whom they come into contact when working, treating everyone fairly and with dignity. The suppliers' system is managed with same principles and is also constantly monitored on these aspects.



### Internal and external communication



The knowledge of the mission, values, policies and sustainable growth objectives of Iren Group, together with the capacity to listen, are crucial for the true involvement of human resources in developmental challenges. External communication is the primary vehicle for relations and transparency with stakeholders in order to provide information on the economic, environmental and social impacts of the Group, in a prompt and timely manner.



### Efficient and reliable services



Improving the efficiency of all services is important both in terms of the quality offered to customers/residents and to ensure the proper use of resources, the reduction of energy consumption and environmental impacts, as well as reducing the operating expenses of the Group. Continuity and reliability of service are constantly strived for, not merely to comply with legislation, but also on a voluntary basis.



### Service levels offered, customer focus and changes in customer expectations



Service levels and attention to individuals are key elements for satisfying customers and for successfully competing on the market. The ability to deliver high quality levels and innovative services in order to respond to new and emerging customer demands represents a guarantee for long-term development. Iren Group's mission is to offer its customers and areas the best integrated management of energy, water and environmental resources, with innovative and sustainable solutions in order to produce value over time.



### Marketing policies



Innovative offers are changing Iren's role, shifting it from a simple energy supplier to an expert in services with high added value. Simultaneously, the promotion of innovative offers and services increases customer satisfaction levels, reinforcing loyalty. Innovation, agility and smartness are the Group's objectives for improving its relationship with its customers.



### Responsible management of business segments



Iren Group invests and defines objectives to guarantee security, continuity, health and business sustainability, aware of the responsibility that energy and environmental service management entails, for the present and for the future of communities and local areas. The commitment is aimed at developing initiatives and the ability to use the available time, money and resources appropriately, taking the social and environmental impact of business actions into consideration.



### Fight against corruption



Iren Group plays an important role in terms of entrepreneurship and corporate responsibility. In order to prevent and fight corruption, it has adopted an organisational model and a Code of Ethics with guidelines, procedures and rules of conduct. Training and raising the awareness of personnel are the keys to consolidating an ethical culture of business relationships that can tangibly influence the Group's development opportunities.



### Management of emergencies



The prompt and proper management of critical situations or natural disasters is fundamental for guaranteeing safety and support to communities, also during events that fall outside the operational context of Iren Group. In line with this principle, Iren has provided support during natural disasters all over Italy.



### Management of construction sites



The topic is relevant due to its social and safety implications for stakeholders: workers, residents and Local Bodies. Guaranteeing the safety of workers and communities lies at the heart of the Group's operating strategies, as does the commitment to minimising the impact of construction sites.



### Sustainable management of the supply chain



Iren Group's objective is to build proper and transparent relationships with suppliers, which are based on clear rules and shared values that are the key to maintaining the quality of service levels, environmental protection and safety of workers and communities. The Group considers enhancing categories of suppliers that guarantee jobs for disadvantaged people to be important and consistent with its mission.



### Value and economic development for local areas



This is a cornerstone of Iren's strategy, which aims to guarantee the creation of value for shareholders and stakeholders. The economic development of the Group is crucial for growth and competitiveness, as well as for the significant economic, social and environmental impacts that it generates for communities in terms of the distributed added value, job creation, investments in the local area, returns and resource generation for Local Administrations.



### Competitiveness on the market



The Group's development is influenced by its ability to compete on the market. Therefore, its growth strategy is heavily focused on customers and the development of new integrated services in order to anticipate responses to market trends, with great attention to personnel skills and the efficiency and effectiveness of processes. Technological innovation, the sustainability of resources and energy transition and digitisation are the main drivers that Iren Group uses to compete on the market and increase its market share.



### Impacts on local areas (suppliers)



The impact that Iren Group has on the local area, in social, economic and environmental terms, is due to the contribution of every employee and the involvement of other stakeholders: colleagues, customers, suppliers, shareholders and the local community. The contribution of all participants in the processes is essential, both as employees and suppliers, to guarantee positive outcomes that contribute to growth and local development.



### Compliance with laws and regulations



Proactive management of compliance, through monitoring and debate with Regulatory Authorities, is essential for Iren Group to anticipate scenarios and regulatory changes, as well as to carry out an effective assessment of risks. Through a proactive approach, Iren Group also helps to improve the regulatory framework of the energy and environment sectors.



# The Iren Group



*The Group operates in a multi-regional area with over 7,000 employees, a portfolio of over 1.9 million customers in the energy sector, 2.8 million residents served by the integrated water service and over 2.3 million residents within its environmental services*



## ABOUT US

Iren, a multi-utility company listed on the Italian Stock Exchange, operates in the following business areas: electricity (production, distribution and sale), district heating (production, distribution and sale), gas (distribution and sale), integrated water service management, environmental services (waste collection and disposal) and services for Public Administrations.

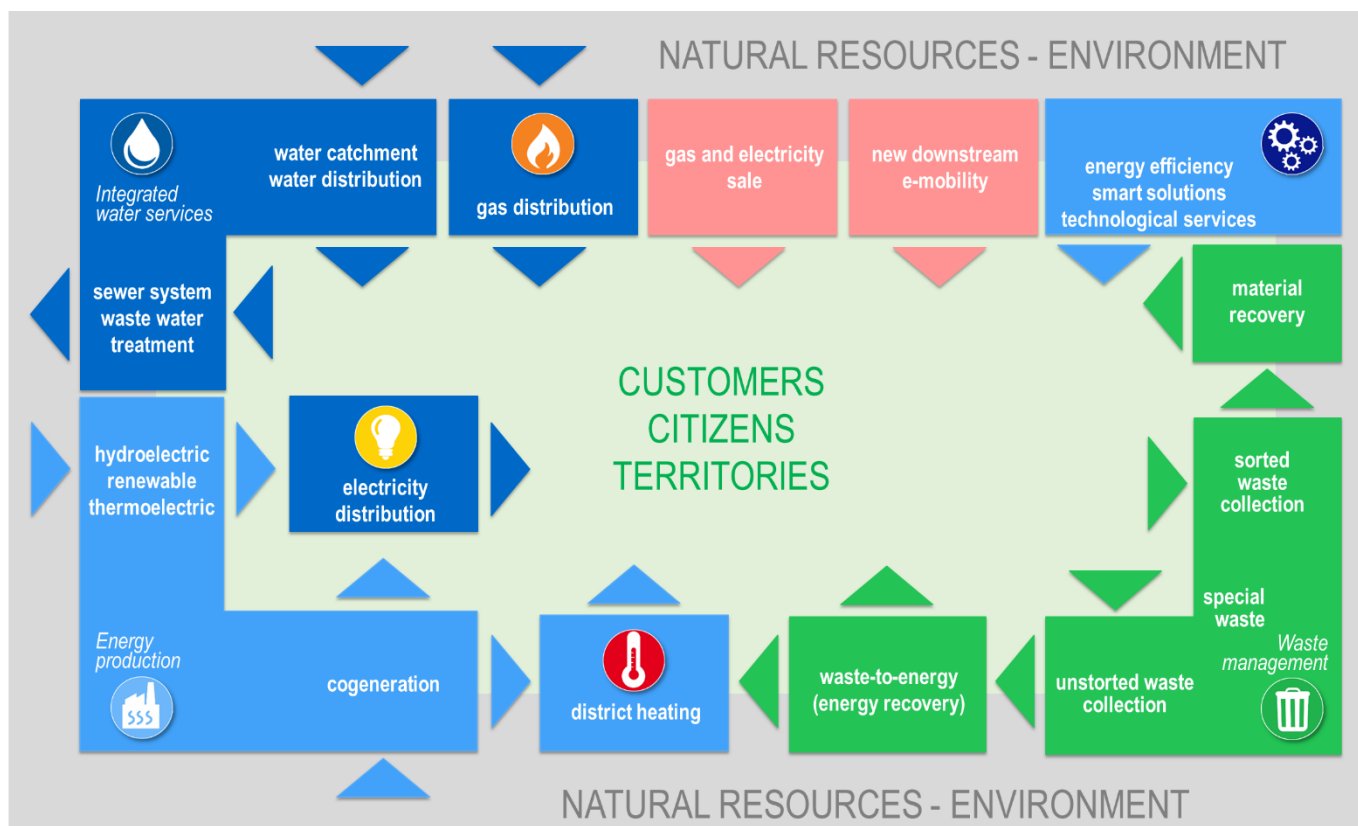
Iren, which has provided services to the community for over 100 years, is structured as an industrial holding and four business units, each overseeing a specific line of business:

- **Networks**, focusing on the integrated water service, gas distribution, electricity distribution, public street lighting and traffic light systems;

- **Environment**, dealing with waste collection, urban hygiene, the design and management of waste treatment and disposal plants;
- **Energy**, regarding electricity and heat production, management of district heating and technological services;
- **Market**, operating in the field of procurement and sale of electricity, gas and heat for district heating.

The structure of the Group aims to strengthen its local presence and the integration of its various segments, with a business model that aims to create sustainable value over time, for both the company and its stakeholders.

Iren focuses on providing services and creating infrastructure to improve and enhance local territories, in full respect of natural resources, the environment and its customers.



■ Business Unit Networks ■ Business Unit Energy ■ Business Unit Environment ■ Business Unit Market

## IMPORTANT EVENTS IN 2018

### Awarding of 4 lots of the Consip tender for supplying the Public Administration

The Group, through Iren Mercato, strengthened its presence as an electricity supplier to Public Administrations with the award, in January 2018, of four lots (Piedmont, Valle d'Aosta, Lombardy, Emilia Romagna and Veneto) of the Consip EE15 tender, for a total annual volume of supply estimated at 2.4 TWh and a total amount of supply estimated at 365 million Euro of revenue.

### Sale of the shareholding in Mestni Plinovodi

The transfer of the shareholding in Mestni Plinovodi d.o.o., a company operating in the distribution and sale of gas in Slovenia, from Ireti to Adriaplin d.o.o. was completed on 9 March 2018. The sale of the shareholding, deemed to be non-core in nature, falls into the context of the business rationalisation implemented by the Group over the last three years, in order to release funds and seize opportunities for growth within the relevant areas.

### The business combination between Iren and ACAM Group

On 11 April 2018, the business combination was completed between Iren and ACAM Group, which operates in integrated water service



management and environmental service management in the province of La Spezia. The transaction saw the acquisition by Iren of the ACAM shares held by 31 public shareholders and the simultaneous subscription by 27 ACAM shareholders of new ordinary shares in Iren (amounting to 1.90% of the share capital) in the context of the capital increase reserved for them. The business combination was completed on 23 October 2018 with the merger by incorporation of Integra and ACAM in Iren, which came into effect on 1 November 2018, and the transactions carried out by the incorporated companies have been recognised in the Iren financial statements, for accounting and tax purposes, since 1 January 2018. This transaction enables the expansion of the Iren Group's concession portfolio, in line with the provisions of the Business Plan.

#### **Renewal of the Board of Statutory Auditors**

With the approval of the financial statements at 31 December 2017, the term of office of the Board of Statutory Auditors expired and thus the Shareholders' Meeting, held on 19 April 2018, appointed three Standing Auditors, Cristina Chiantia, Simone Caprari and Michele Rutigliano, electing the latter as Chairman of the Board of Statutory Auditors, and two Alternate Auditors, Marco Rossi and Donatella Busso. The Board of Statutory Auditors will remain in office up to the date of approval of the financial statements for the year ending 31 December 2020.

#### **Agreement with the Municipality of Turin**

On 12 July 2018, Iren, in its capacity as authorised agent with representative powers of its subsidiaries AMIAT, Iren Energia and Iren Mercato, and the Municipality of Turin signed an agreement to govern the progressive repayment of the receivables due to the aforementioned Group companies from the Municipality, as well as specifically reconciling certain receivable items currently contested or viewed differently and, on this occasion, reviewing and redetermining some of the obligations established in the existing contractual relationships. Iren's signing of the agreement was classified as a significant transaction pursuant to the CONSOB Regulation on transactions with related parties (Resolution no. 17221 of 12/03/2010 and subsequent amendments) and, for this reason, a disclosure document was published and filed within the legal terms.

#### **Demerger of FSU**

On 27 July 2018, the asymmetric non-proportional partial demerger of Finanziaria Sviluppo Utilities S.r.l. (FSU) came into effect. Up to that date, the company held an equity interest of 32.67% in the share capital of Iren and was 50% owned by the Municipality of Genoa and 50% indirectly owned by the Municipality of Turin through Finanziaria Città di Turin Holding (FCT Holding, wholly controlled by the latter). As a result of the demerger, half of the shareholders' equity of FSU was assigned to FCT Holding, against the cancellation of the related equity interest of the latter in FSU and, with consequent reduction of half of the share capital of FSU, of which the Municipality of Genoa came to hold 100%. Following this operation, FSU (wholly controlled by the Municipality of Genoa) and FCT Holding (wholly controlled by the Municipality of Turin) each hold an equity interest in Iren of 16.335% of the share capital.

#### **Acquisition of Spezia Energy Trading**

On 6 September 2018, Iren Mercato acquired Spezia Energy Trading, a company controlled by Spienergy, which is based in La Spezia and sells electricity and gas. Based on the agreements, before the closing of the acquisition transaction, all of Spienergy's customer portfolio of electricity contracts (corresponding to approximately 42,500 PODs) and gas contracts (corresponding to approximately 1,300 PDRs) was awarded to Spezia Energy Trading. The transaction enables a sharp acceleration of the growth plan of the Market Business Unit, which acquires a customer portfolio with good margins in territories contiguous to those of reference for the Group and expands the indirect sales network.

#### **Partnership with Fratello Sole for energy efficiency**

On 7 September 2018, Iren Energia finalised an industrial partnership with Fratello Sole, a company operating in support of charitable and socially-useful entities in the field of energy costs savings, regarding the equity investment in Fratello Sole Energie Solidali S.r.l., a social non-profit enterprise that will supply management and energy efficiency services in relation to the property assets of the third-sector shareholders that founded Fratello Sole. The transaction will involve potential property assets of 300 buildings, with the possibility of parallel development of e-mobility projects for customers. Fratello Sole Energie Solidali is held 60% by Fratello Sole and 40% by Iren Energia which, through its division Iren Smart Solutions, will act as technical partner for feasibility analyses, planning and implementation.

#### **Issue of a second Green Bond of 500 million Euro**

On 12 September 2018, Iren completed the issue of its second Green Bond, to the amount of 500 million Euro and with a maturity of 7 years, listed on the regulated market of the Irish Stock Exchange and at the multilateral trading facility "ExtraMOT PRO" of the Borsa Italiana in the dedicated segment. The Green Bond is destined to finance and refinance projects related to energy efficiency, renewable sources, increasing efficiency in managing the waste cycle, purifying waste water and electrical mobility. The new issue, together with the issue of the same amount placed in October 2017, took the green issues carried out by Iren to 1 billion Euro, equivalent to approximately 40% of its bond portfolio, testifying to the Group's commitment in the inclusion of ESG (Environment, Social and Governance) issues in strategic investment options.

#### **Business Plan to 2023**

On 26 September 2018, the Board of Directors approved the Business Plan to 2023, which confirms the strategic framework of the previous Plan with the addition of new growth opportunities derived from the development achieved in the last four years. The guidelines and objectives of the plan are discussed in depth on page 34.

#### **Acquisition of Maira**

On 28 September 2018, Iren Energia acquired a controlling stake in Maira, a company with registered office in San Damiano Macra (Cuneo). Operating in the construction and management of hydroelectric plants in Piedmont, which has in concession and manages 3 mini-hydroelectric plants for a total installed capacity of 5 MW, Maira produces approximately 15 GWh annually. The transaction also provides Iren Energia the possibility to exercise, on



fulfilment of certain conditions, a call option for the purchase of 60% of the shares of the investee Alpen 2.0, which was set up to become a platform for the acquisition and operation of mini-hydroelectric plants and has a number of greenfield projects in development. This acquisition is part of a process of developing the Energy Business Unit in renewable production, by strengthening the presence in the Group's core territories.

**Contract for the acquisition of the San Germano Group**

On 17 October 2018, Iren Ambiente signed a contract with Derichebourg Group for the acquisition of 100% of the company San Germano, based in Pianezza (Turin), and its subsidiary CMT. San Germano manages waste collection and transport in 145 municipalities, with approximately one million residents served, in Piedmont, Sardegna, Lombardy and Emilia Romagna, with 20 operating sites and a workforce of more than 800 employees. CMT operates in separated waste collection and paper, cardboard and plastic recycling, through 6 sites located in Piedmont, and Sardegna, for an authorised capacity of approximately 100,000 tonne/year. The completion of the transaction has received approval from the Italian Competition Authority and is subject to a number of precedent conditions, which are currently being verified. The transaction is part of a process of developing the Environment Business Unit, thanks to the acquisition of greater competitive

abilities in the collection activity and to the development of recycling activities, both expanding the presence in the core territories and into geographical areas considered of prospective interest.

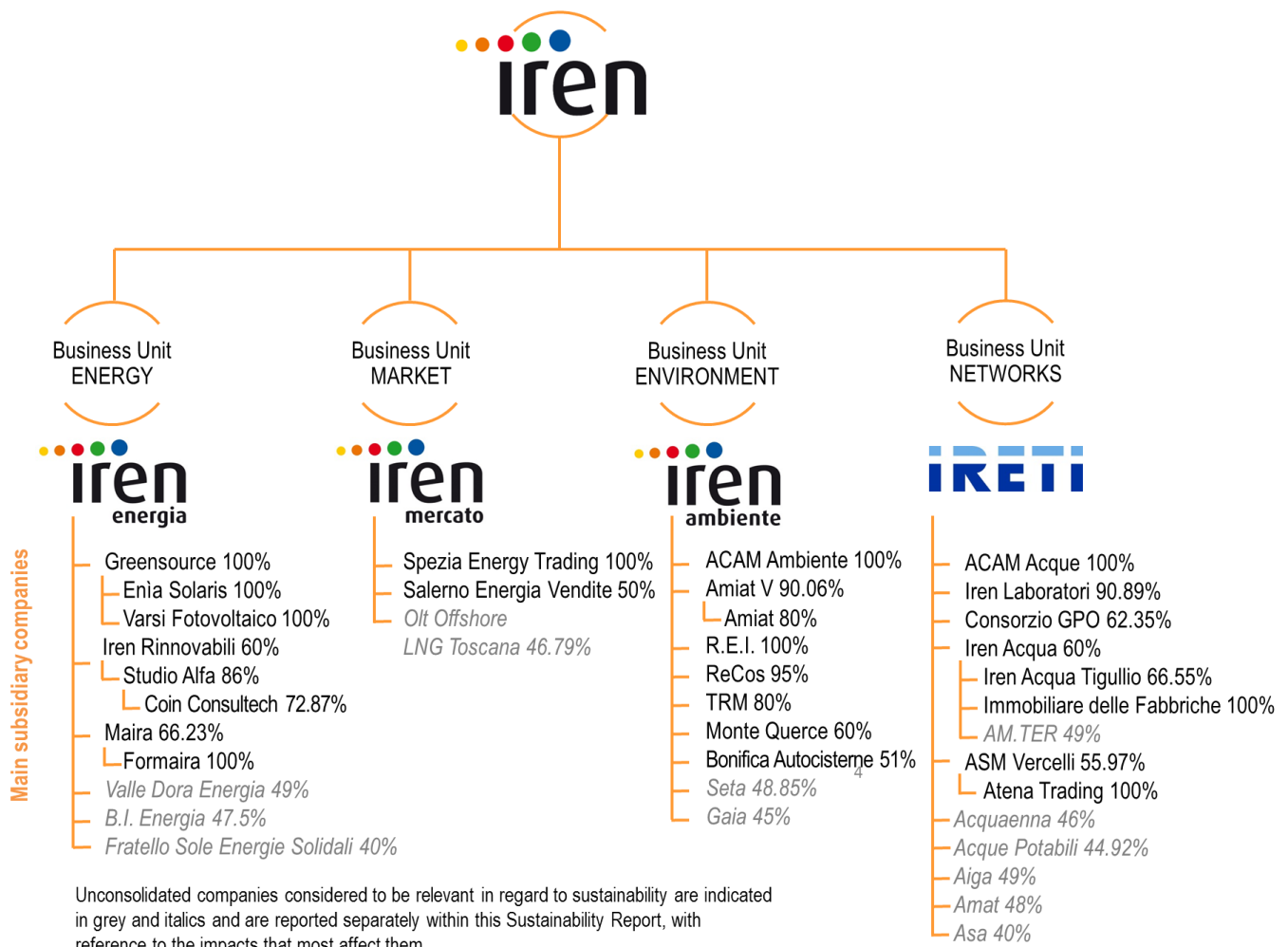
**Acquisition of a share in SETA, a public operator in the northern Turin area**

On 17 October, Iren Ambiente completed the transaction to acquire from SMC Smaltimenti Controllati (Waste Italia Group) a business unit made up of the 48.85% equity interest in Società Ecologica Territorio Ambiente (SETA) and of the activities of closure and post-closure management of the Chivasso 0 landfill site. SETA, with a workforce of approximately 230 employees, is the concessionaire of the integrated municipal waste collection service in Catchment Area 16 (Province of Turin) serving around 228,000 inhabitants across 31 municipalities. The transaction will make it possible to achieve significant synergies with Group companies TRM and AMIAT, which operate in the territory of the Turin metropolitan area.

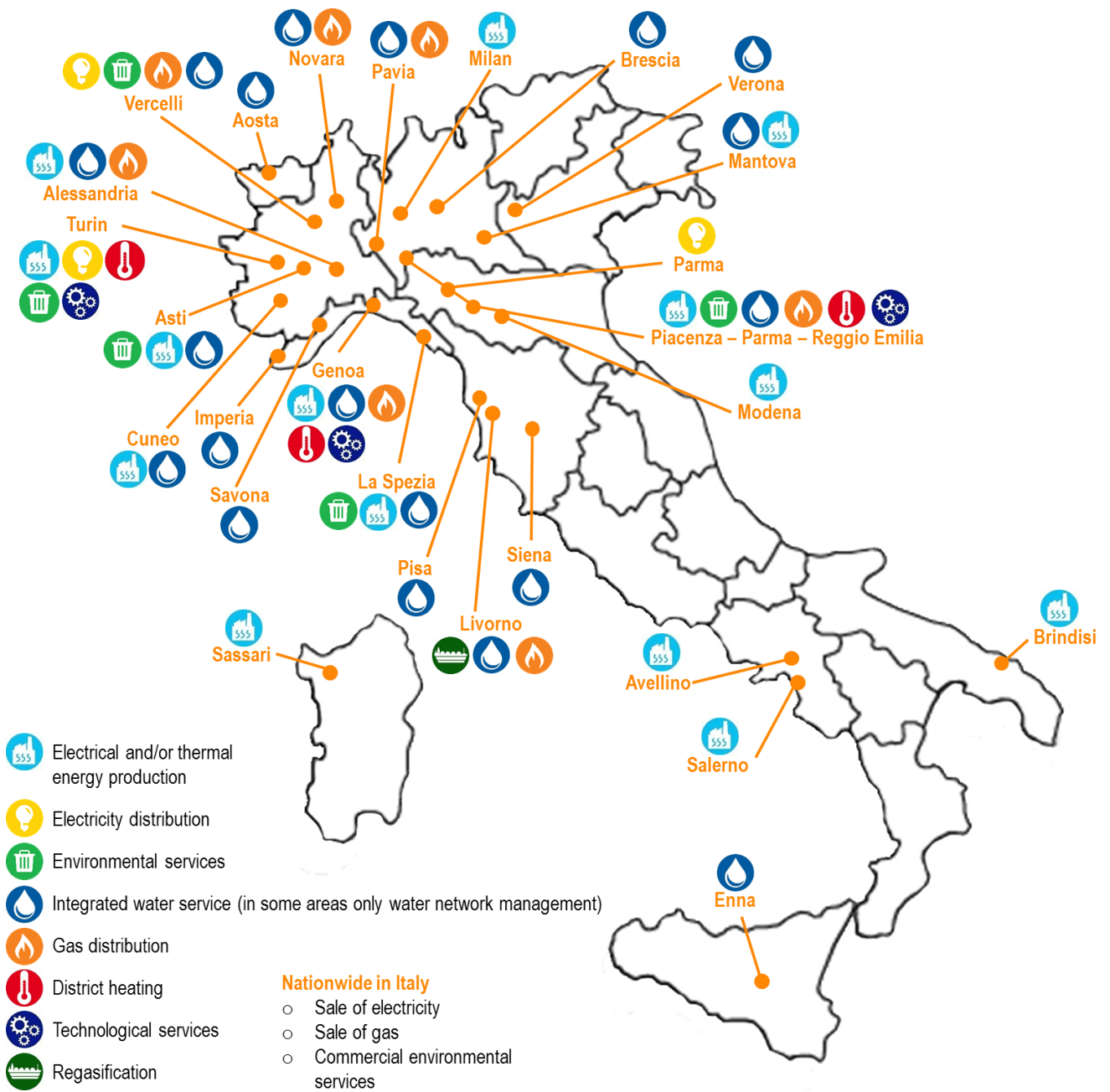
**Fitch confirms Iren's "investment grade" rating**

On 28 November 2018, the Fitch agency assigned Iren Group a BBB rating, with a stable outlook. The decision was mainly based on the updated Business Plan to 2023 and positively assessed the historic financial discipline of management directed towards achieving set targets.

**STRUCTURE OF IREN GROUP AT 31/12/2018**



## MAIN AREAS SERVED





## BUSINESS SEGMENTS

	Energy Services	Water cycle systems	Environmental Services
	<i>Production of electrical and thermal energy, distribution and sale of electricity, gas and heat (district heating)</i>	<i>Civil and industrial water mains, sewage and treatment works</i>	<i>Urban and special waste collection, recovery, treatment and disposal</i>
<b>Retail and business customers</b>	1,924,771 (electricity and gas)	745,228	
<b>Citizens served</b>	868,130 (district heating)	2,829,798	2,320,687
<b>Volumes</b>	Electricity <ul style="list-style-type: none"> <li>• produced: 9,002 GWh</li> <li>• sold: 15,697 GWh</li> <li>• distributed: 3,836 GWh</li> </ul> Gas <ul style="list-style-type: none"> <li>• sold: 2,845 million m<sup>3</sup></li> <li>• distributed: 1,287 million m<sup>3</sup></li> </ul> Heat <ul style="list-style-type: none"> <li>• produced: 2,932 GWh</li> <li>• sold: 2,426 GWh</li> <li>• volume served: 93.7 million m<sup>3</sup></li> </ul>	Water sold: 187 million m <sup>3</sup>	Waste treated: 2,269 million tonnes
<b>Networks and plants</b>	46 hydroelectric plants 7 thermoelectric co-generation plants 1 thermoelectric plant 3 waste-to-energy plants 3 landfills (post operation) 3 biogas (treatment plants) 95 photovoltaic  Distribution networks <ul style="list-style-type: none"> <li>• Electricity: 7,692 km</li> <li>• Gas: 8,028 km</li> <li>• District heating: 993 km</li> </ul>	1,323 treatment plants  Water mains network: 23,360 km Sewage systems: 11,162 km	3 waste-to-energy plants 2 operating landfills 19 treatment, selection, storage and recovery plants  154 waste collection points

## PRODUCTION OF ELECTRICAL AND THERMAL ENERGY

Main Indicators	Volumes
total installed electrical power (electricity set-up)	2,852 MWe
of which installed photovoltaic power	17.9 MWe
installed thermal power	2,498 MWt
electricity produced	9,002 GWh
thermal energy (heat) produced	2,932 GWh

Electricity produced by plants fuelled by environmentally friendly sources (renewable or similar), which represent about 70% of the Group's plants, is approximately 87% of all production, compared to the national average which stands at 35%.

Iren has 95 photovoltaic plants, which produced 20,227 MWh of electricity in 2018.

## MARKET

The Group operates in the sale of electricity, gas and heat for district heating, and of extra-commodity services and products, in particular for energy efficiency. It is present throughout Italy, with a greater concentration of customers in the central-northern areas. The main sources available are the thermoelectric and hydroelectric plants of the Group.



## SALE OF NATURAL GAS

Main Indicators	Volumes
<b>gas procured</b>	<b>2,845 million m<sup>3</sup></b>
gas sold to end customers	1,159 million m <sup>3</sup>
gas consumption by the Group	1,477 million m <sup>3</sup>
gas in storage as at 31/12	209 million m <sup>3</sup>
<b>retail customers</b>	<b>906,376</b>
protected	373,930
free market	532,446

## SALE OF ELECTRICITY

Main Indicators	Volumes
<b>electricity sold</b>	<b>15.697 GWh</b>
to end customers and wholesalers	8,824 GWh
listed	6,873 GWh
<b>retail customers</b>	<b>948,816</b>
protected market	226,784
free market	722,032

Volumes sold to protected market customers, mainly distributed in Turin, Parma and Vercelli where the Group also acts as the protected market service operator, amount to 483 GWh.

## SALE OF HEAT FOR DISTRICT HEATING

Main Indicators	Volumes
heat sold	2,426 GWh
thermal energy purchased from third parties	14 GWh
customers served	50,308

Through its own co-generation and transport networks, the Group offers district heating service to Turin, Nichelino, Reggio Emilia, Parma, Piacenza and Genoa. Furthermore, due to the leasing of a business unit from the company SEI Energia, it produces and distributes heat in the municipalities of Collegno, Grugliasco and Rivoli. With district heating, customers help to protect the environment with low running costs and greater reliability and safety compared to traditional heating plants.



## MARKETING OF ENVIRONMENTAL CERTIFICATES

In 2018, just over 2.8 million CO<sub>2</sub> allowances (EUA) were purchased in order to meet the obligations provided for in the Emissions Trading Scheme (ETS) legislation, related to emissions generated by Iren Group plants. Approximately 75,000 Energy Efficiency Bonds (EEB) were also purchased at the average price of 309.3 Euro/EEB in order to meet the annulment obligations provided annually for the distributor Ireti.

## GAS DISTRIBUTION

Local Area	km of network	End customers	Distributed gas (million m <sup>3</sup> )
Emilia-Romagna	6,009	396,447	886
Liguria	1,686	317,841	351
Piedmont	333	27,878	50
<b>Total</b>	<b>8,028</b>	<b>742,166</b>	<b>1,287</b>

The distribution service, managed in 104 Municipalities, guarantees the withdrawal of natural gas from Snam Rete Gas pipelines and its transportation through local gas pipeline networks for delivery to end users. Iren Group also manages the distribution and sale of LPG. In the Province of Reggio Emilia and the Province of Genoa in particular, via 14 and 7 storage plants respectively, located in various areas that are still not covered by the natural gas network. The LPG distribution activity is closely connected to the gradual "methanisation" of the area.



## ELECTRICITY DISTRIBUTION

City	km of network	Customers	Electricity distributed (GWh)
Parma	2,508	128,280	906
Turin	4,651	563,773	2,746
Vercelli	533	28,678	184
<b>Total</b>	<b>7,692</b>	<b>720,731</b>	<b>3,836</b>

In Turin and Parma, the activities concerning the distribution of electricity are carried out by the company Ireti, while distribution in Vercelli is assigned to ASM Vercelli.

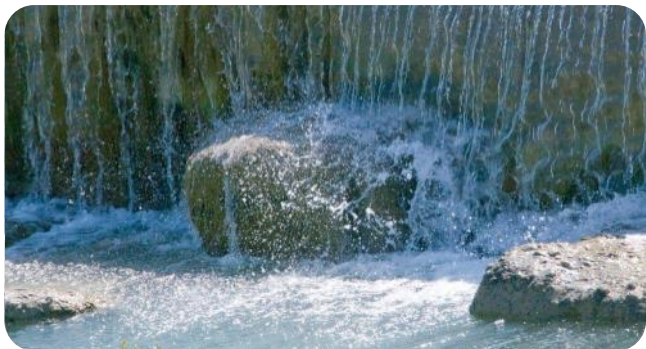


## DISTRICT HEATING

Area	km of network	Volume (million m <sup>3</sup> )	Residents served <sup>(1)</sup>
Turin and surrounding municipalities	632	68.9	638,082
Reggio Emilia	220	13.5	125,008
Parma	103	5.9	55,019
Piacenza	28	1.8	16,391
Genoa	10	3.6	33,630
<b>Total</b>	<b>993</b>	<b>93.7</b>	<b>868,130</b>

<sup>(1)</sup> Estimated data

The Turin district heating network is the most extensive in Italy. In 2018, the development projects outlined in the Business Plan continued (for more information, see page 74).



## INTEGRATED WATER SERVICE

Main Indicators	Volumes
Water networks	23,360 km
Sewage systems	11,162 km
Residents served	2,829,798
Municipalities served	265
Water sold	187 million m <sup>3</sup>

The integrated water service, which includes the procurement and distribution of drinking water, management of the sewage systems and water treatment activities, is managed in the following provinces (in some areas only water network management): La Spezia, Genoa, Imperia, Savona, Parma, Piacenza, Reggio Emilia,

Aosta, Alessandria, Asti, Cuneo, Novara, Vercelli, Brescia, Mantova, Pavia and Verona.

## ENVIRONMENTAL SERVICES

Main Indicators	Volumes
Waste handled	2,268,791 t
Urban waste treated	1,580,096 t
Separated waste collection	64.3%
Residents served	2,320,687
Municipalities served	165

The Group manages environmental health services in the provinces of Piacenza, Parma, Reggio Emilia, La Spezia, Vercelli and in the city of Turin.

The environmental services include the collection and recovery or disposal of solid urban waste or similar and non-hazardous special waste, as well as its transportation to plants belonging to the Group or third parties.



## SMART SOLUTIONS

The Group, bolstered by its technological expertise, works via Iren Rinnovabili with the brand Iren Smart Solutions, in the following sectors:

- energy efficiency concerning the requalification of private and public buildings;
- global service (integrated management of the electrical and technological plants of complex property assets). Within the City of Turin, it manages heating (about 800 buildings) and electricity services in municipal buildings and the global technological service for buildings of public interest. In Genoa, it manages the district heating, air conditioning and technology plants (Municipalities, organisations, hospitals, sport centres, private apartment buildings);
- photovoltaic and thermal energy production systems;
- artistic and public street lighting. The management concerns the cities of Turin, Alba (within a temporary association of companies with Egea Alba), Asti (through its subsidiary Asti Energie e Calore) and 11 municipalities in the Biella area that belong to the Consorzio Enerbit. In these areas, the Group has

prepared a structured plan to replace the traditional lights with new LED equipment;

- consultancy and monitoring of energy saving.

In Turin, the Group also manages the city's traffic lights.

Furthermore, Iren Rinnovabili (a certified ESCO) plans, funds, installs and provides a full management service for systems and plants that enable a reduction in energy consumption and generate concrete and long-lasting economic advantages, proposing innovative technological and contractual solutions to maximise the advantages to the customer.

## OTHER SERVICES

The Group's telecommunications network extends over the Turin area and from the ridge of the Susa Valley to Susa. In Turin, the fibre optic network extends for almost 200 km and connects over 400 customer sites, including the Group's main sites where it is used specifically to monitor and remotely control district heating, electricity distribution, public street lighting and for the data collection system for electricity meters and apartment buildings with district heating. Various passage points for restricted traffic areas (ZTL), traffic light regulators and the remote control of the water network are also managed through the Group's network. The network reaches Genoa, Parma, Piacenza and Reggio Emilia, through a redundant 10 Gbps infrastructure dedicated to the Group.

## COMPANIES OUTSIDE THE PERIMETER

### B.I. ENERGIA

B.I. Energia S.r.l. is the investee of Iren Energia (47.5%) and Consorzio di Bonifica dell'Emilia Centrale [Central Emilia Conservation Consortium] (52.5%), which manages the run-of-river hydropower plant of Castellarano (Reggio Emilia), on the river Secchia, in San Michele dei Mucchi (Modena). The plant produces electricity via the 10 m jump of the pre-existing weir, which has been in operation for many years for irrigation, industrial and drinking water purposes.

The plant, which was constructed in 2016, became operational in August 2017 and will benefit from the all-inclusive tariff for 20 years, pursuant to the Italian Ministerial Decree of 06/07/2012.

Main Indicators	unit of measure	2018
Electrical power	MWe	1.8
Production of electricity	MWh	4,523

### FRATELLO SOLE ENERGIE SOLIDALI

Fratello Sole Energie Solidali is a social non-profit enterprise, founded in September 2018 from an agreement between Iren Energia (40%) and Fratello Sole (60%), a company operating in support of charitable and socially-useful entities in the field of energy costs savings. Fratello Sole Energie Solidali will supply management and energy efficiency services in relation to the property assets (around 300 buildings) of the shareholders that

founded Fratello Sole. The company will be responsible for energy efficiency work in the planning stages and will involve the technical partner, Iren Smart Solutions, as implementer and/or main contractor for feasibility analyses, planning and implementation. Furthermore, e-mobility projects for the customers of Fratello Sole Energie Solidali may also be developed.

Given the limited amount of time the Company has been in operation, there were no main indicators as at 31 December 2018.

### VALLE DORA ENERGIA

Valle Dora Energia S.r.l., a subsidiary of the Municipalities of Chiomonte, Salbertrand, Exilles and Susa and an investee of Iren Energia (49%), was established in 2010 to develop the requalification of the hydroelectric plants of Chiomonte and Susa, whose productivity contributes over 30 GWh per year. In 2016, the plants were admitted to the ranking for incentives on the energy produced, held by GSE (Electricity Services Provider). Keeping these plants in operation also ensures important functions of public utility for the local area (protecting irrigation easements, hydro-geological protection and fire prevention service). In December 2017, preparatory work was started on the Chiomonte and Susa power plants, without impacting production, and in 2018 the tenders for unscheduled maintenance and plant renovation were completed.

From a management perspective, 2018 was characterised by significant production thanks to high water levels. Annual consumption for production came to 250 MWh, entirely from renewable sources.

Main Indicators	unit of measure	2018
<b>Total electrical power</b>	<b>MWe</b>	<b>27.4</b>
Susa plant	MWe	12.5
Chiomonte plant	MWe	14.9
<b>Total electricity production</b>	<b>MWh</b>	<b>57,263</b>
Susa plant	MWh	20,040
Chiomonte plant	MWh	37,223



### ACQUAENNA

Acquaenna S.C.p.A. is the investee of Ireti (46%) which manages the integrated water service in the ATO (territorial subdivision authority) of Enna (excluding the municipality of Barrafranca).



The company operates across all stages of the water technological cycle (catchments, supply, distribution, sewage and treatment), implementing the Area Plan approved by the Mayors' Assembly, planning and making investments and experimenting with new technological solutions.

Acquaenna implements a ISO 9001 certified Quality System.

Main Indicators	unit of measure	2018
Residents served	no.	156,570
Municipalities served	no.	19
Water sold	m <sup>3</sup>	6,500,000
Water networks	km	821
Sewage systems	km	522
Waste water treatment plants	no.	20
Employees as at 31/12	no.	102

## ACQUE POTABILI

Acque Potabili S.p.A. manages the water service in the municipality of Adria (province of Rovigo) for a total of 19,604 residents (10,000 users).

In 2018, management was conducted via an operational agreement with Ireti (which holds an equity interest of 44.92% in the Company), which is why Acque Potabili does not have its own employees. During the year, approximately 1.5 million cubic metres were sold. On 28 December 2018, Acque Potabili sold the business unit for the management of the water service of the municipality of Adria to Acque Venete, thus divesting of the last concession managed.

## AIGA

AIGA S.p.A. is the subsidiary of the Municipality of Ventimiglia (51%) and investee of Ireti (49%) that manages the integrated water service (water network, sewage, treatment) in the Municipality of Ventimiglia, while awaiting takeover by the area's market operator.

Main Indicators	unit of measure	2018
Residents served	no.	27,000
Municipalities served	no.	1
Water sold	m <sup>3</sup>	2,000,000
Water networks	km	150
Sewage systems	km	90
Waste water treatment plants	no.	1
Employees as at 31/12	no.	10

## AMAT

AMAT S.p.A. is the company established by the Municipality of Imperia (52%) and an investee of Ireti (48%) which manages the integrated water service in Imperia and in other municipalities nearby. The Company is particularly focused on monitoring environmental impacts via the systematic verification of discharges,

assessment of losses and surveying the network for its correct sizing.

Main Indicators	unit of measure	2018
Residents served	no.	46,505
Municipalities served	no.	4
Water sold	m <sup>3</sup>	4,109,000
Water networks	km	326
Sewage systems	km	240
Waste water treatment plants	no.	1
Employees as at 31/12	no.	51

## AM.TER.

AM.TER. S.p.A. established in 1997 by the Municipalities of Campo Ligure, Cogoleto, Masone, Mele and Rossiglione together with Iren Acqua (49%), is the company that manages the integrated water service in the area of Ponente in the province of Genoa and in the municipalities of Arenzano and Tiglieto. The supply sources present in the area vary and consist of 103 sources, 13 rivers and 3 wells. The water is treated in 9 treatment plants and 16 disinfection plants, distributed over the area of competence. The municipal treatment plant of Rossiglione, which has been adapted to European standards after various interventions, deals with the final discharge of the sewage systems of the Municipalities of Campo Ligure and Masone.

AM.TER has adopted an integrated Quality, Safety and Environment management system in accordance with ISO 9001, OHSAS 18001 and ISO 14001 standards.

Main Indicators	unit of measure	2018
Residents served	no.	46,069
Municipalities served	no.	7
Water sold	m <sup>3</sup>	2,148,627
Water networks	km	292
Sewage systems (including connections)	km	127
Waste water treatment plants	no.	14
Employees as at 31/12	no.	14

## ASA

ASA S.p.A. is an investee of the Municipalities of the provinces of Livorno, Pisa and Siena and of Ireti (40%) that manages the integrated water service and the distribution of natural gas.

It operates the water service in five local sub-districts known as the North-West (main municipality Livorno), Alta Val di Cecina (main municipality Volterra), Bassa Val di Cecina (main municipalities Cecina and Rosignano Marittimo), Val di Cornia (main municipality Piombino) and Isola d'Elba, over a territorial area of more than 2,400 square km.



The natural gas distribution service is managed by the municipalities of Livorno, Collesalvetti, Rosignano Marittimo, Castagneto Carducci and San Vincenzo.

ASA implements a Quality System certified in accordance with ISO 9001.

Main Indicators	unit of measure	2018
Residents served - integrated water service	no.	419,226
Municipalities served - integrated water service	no.	32
Water sold	m <sup>3</sup>	25,109,303
Water networks	km	3,531
Sewage systems	km	1,308
Waste water treatment plants	no.	76
Residents served - natural gas distribution	no.	222,799
Gas distribution customers	no.	98,822
Municipalities served - natural gas distribution	no.	5
Natural gas distributed	m <sup>3</sup>	91,032,956
Employees as at 31/12	no.	480

## GAIA

GAIA S.p.A. is the investee of Iren Ambiente (45%) that manages the waste treatment, recovery and disposal plants in the province of Asti.

GAIA's activities are spread across the entire province of Asti, in a catchment area with approximately 212,000 residents. It has a structured system of plants: 12 collection points for citizens to dispose of separated waste collection, a separated waste reclamation plant, a plant for the mechanical treatment of non-separated waste (Asti), a compost plant (San Damiano d'Asti) for the recovery of organic waste and a landfill for non-hazardous waste (Cerro Tanaro). In recent years, with the new collaborations in Piedmont, Valle d'Aosta, Liguria and Emilia Romagna, the volume of waste to be treated has exceeded the capacity of the plants.

To achieve economically sustainable development, GAIA has worked to adopt a transparent policy, gradually improving its Management System with quality, environment, safety and social responsibility certifications.

Since 2009, it has EMAS registration for all managed sites.

Main Indicators	unit of measure	2018
Waste collected in Eco-stations	t	9,244
Waste handled	t	147,786
separated waste reclamation plant	t	39,159
mechanical biological treatment (MBT)	t	46,388
transfer station	t	10,032
compost plant	t	4,790
landfill for non-hazardous waste	t	47,417
Employees as at 31/12	no.	141

## SETA

SETA (Società Ecologica Territorio Ambiente) S.p.A. is the contractor of the integrated urban waste collection service for Catchment Area 16 in the province of Turin.

Operating in the waste collection and disposal sector, it is 51.15% controlled by a few Municipalities in the Consortium of Catchment Area 16 (area to the north of Turin), both directly and indirectly through the consortium, and is an investee of Iren Ambiente (48.85%).

SETA also manages the controlled landfill called Chivasso 0, for the disposal of non-hazardous waste and 10 collection points spread across the territory, where users can dispose of the separated waste sent for recovery.

SETA has adopted an Environmental and Quality Management System, in accordance with ISO 14001 and ISO 9001 certification.

Main Indicators	unit of measure	2018
Residents served	no.	227,466
Municipalities served	no.	31
Collected urban waste - separated	t	54,840
Collected urban waste - non-separated	t	42,390
Percentage of separated waste collection	%	56.6
Employees as at 31/12	no.	225

## OLT OFFSHORE LNG TOSCANA

OLT Offshore LNG Toscana has planned, constructed and currently manages the floating regasification terminal "FSRU Toscana", which is located about 22 km off the Tuscan coast between Livorno and Pisa.

The plant was defined by the Ministry of Economic Development (MISE) as an important and necessary infrastructure for the safety of the National Gas System.

The regasification process takes place through the following steps:

- unloading liquid natural gas (LNG) off the LNG carriers and storing it in four regasification tanks;
- regasifying LNG to return it to the gaseous state by means of an increase in temperature;
- compressing the gas to the national grid.

Main Indicators	unit of measure	2018
Annual regasification capacity	m <sup>3</sup>	3,750,000,000
Daily regasification capacity	smc	15,000,000
CO <sub>2</sub> emissions produced	t	72,289
Use of seawater	m <sup>3</sup>	106,736,577
Production of electricity	MWh	49,440
Electricity consumption	MWh	49,440
Waste produced - non-hazardous	t	2,087
Waste produced - hazardous	t	1,527
Employees as at 31/12	no.	21



2018 marked an important milestone in the development of OLT Offshore LNG Toscana, also in relation to the new allocation mechanism for regasification capacity through auctions, to which OLT promptly reacted, quickly adapting its business model. This change contributed to the intensified use of the plant, bringing it to full operational capacity in the last quarter of 2018.

OLT has developed an Integrated Management System in accordance with the ISO 9001 (Quality), ISO 14001 (Environment), OHSAS 18001 (Health and Safety), SA 8000 (Social Responsibility) and EMAS (registration acquired in 2018) standards.

The high operating standards have always been respected, as shown in the Safety, Environment and Territory Report and the EMAS Environmental Declaration, which were both updated to 2018.

The terminal operates in compliance with the IEA Decree (no. 93 of 15 March 2013), that provides for the continuous monitoring of the emissions coming from the two boilers needed for electricity production, as well as the discharge of sea water necessary for regasification.

OLT implements a "Marine Environment Monitoring Plan" through four chemical-physical, biological and eco-toxicological control

campaigns per year. The campaigns carried out so far have not shown any impact on biodiversity or the marine ecosystems. The investigations were conducted by the "G. Bacci" Inter-University Applied Marine Biology and Ecology Centre in Livorno.

An important feature of the socio-economic cooperation with the territory lies in the initiatives for the community. Specifically, OLT has come to an agreement for construction works for approximately 1 million Euro, including the Visitor Centre of the Marine Reserve "Secche della Meloria", the environmental requalification project of the town centre of Stagno and the park with facilities in Marina di Pisa (the latter opened in 2017).

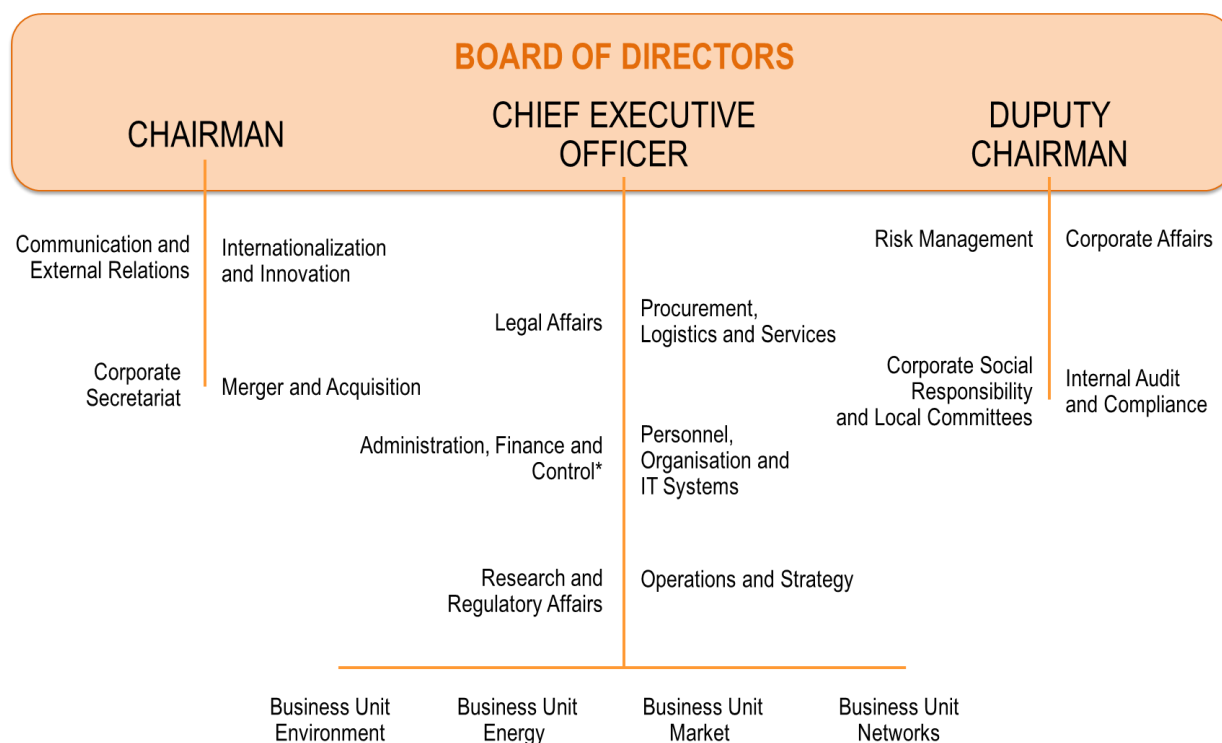
Additional compensation of 2.5 million Euro was given to the Municipality of Livorno in the period between 2014-2018, which was assigned by the Region of Tuscany for the implementation of the door-to-door waste collection service.

OLT has agreed with the Municipality of Pisa to reopen the Incile Canal, the connection between the Arno river and the Navicelli canal, to restore navigation from the centre of Pisa to the port of Livorno. The project was completed in 2018, for an auction-based total value of around 5 million Euro.



# CORPORATE GOVERNANCE

## ORGANISATIONAL STRUCTURE OF IREN GROUP



Iren has a traditional corporate governance system (Board of Directors with administrative roles and a Board of Statutory Auditors with administrative control, both appointed by the Shareholders' Meeting), in compliance with the principles contained in the Code of Conduct for Listed Companies.

## THE IREN BOARD OF DIRECTORS

The Board of Directors (BoD) has full powers for the ordinary and non-recurring administration, implementation and achievement of the company business objectives, with the sole exclusion of powers which by Law or by the Articles of Association are the responsibility of the Shareholders' Meeting.

The BoD assesses the economic, environmental and social performance of the organisation, any significant risks and opportunities, and its compliance with standards, codes of conduct and the principles declared during the approval of the strategic, business and financial planning documents, as well as the Group's annual budget. The assessment of risks and social and environmental performance is carried out with the support of the Control, Risk and Sustainability Committee (made up of Independent Directors) which is responsible for Corporate Social Responsibility matters. The Board of Directors also examines the Group's socio-environmental performance as illustrated on a yearly basis in the Sustainability Report.

The Iren Board of Directors in office as at 31 December 2018 is composed of 13 Directors. The Articles of Association regulate the composition, appointment, methods and criteria of presentation of the lists for appointing Members. The Articles of Association guarantee sufficient presence of the less represented gender in the body (in the present mandate this amounts to at least a third of all Directors) and to ensure the election of at least one minority director (Article 147-ter, subsection 3, Consolidated Law on Finance [TUF]).

Under the terms of the Articles of Association, the BoD delegates its powers to one or more of its members and can also assign powers to the Chairman, Deputy Chairman and CEO, provided they do not conflict with each other. The Delegated Bodies can decide to delegate some of its duties and responsibilities to those working directly under their management and, in specific cases, to other collaborators that have proven their skills and capacities. Such powers may relate to signatures and expenditure, representative powers, powers relative to health and safety in the workplace, fire prevention and the protection and safeguarding of the environment.

It is also possible to sub-delegate to lower level managers, on the condition that the Delegated Body is notified in advance.

The BoD has resolved that the Corporate Social Responsibility department, among others, reports to the Deputy Chairman. A Senior Manager has been appointed Director of this Department.

The assessment of fulfillment of the requirements for independence by Directors is carried out by the Board of Directors after



appointment and annually thereafter. This covers both the criteria defined by the Consolidated Law on Finance, as well as the scenarios of the Code of Conduct, and is implemented on the basis of the information available to Iren via periodic self-assessment questionnaires filed with the records, or via the declarations made by the interested parties given in the minutes. Evaluation is also performed when circumstances regarding independence arise. Pursuant to the Code of Conduct, the Board of Statutory Auditors of the Parent Company, within the scope of the tasks assigned to it by law, checks the correct application of the verification criteria and procedures adopted by the Board to assess the independence of its members. It discloses the outcome of the audit to the market in the Corporate Governance Report or in the Auditors' Report to the Shareholders' Meeting.

For the purposes of the annual update and drafting of the Report on Corporate Governance and Ownership Structures (Article 123-bis, Consolidated Law on Finance) for the 2018 financial year, in the meetings of the 19 February and 5 March 2019, the BoD verified the fulfillment of the independence requirements for 9 Directors. The Directors were assessed pursuant to the Consolidated Law on Finance and the Code of Conduct regarding the self-assessment questionnaires they filled in and the declarations they made (recorded in the minutes).

As provided for by Article 2391 of the Italian Civil Code, Directors that have (personally or on behalf of third parties) an interest in a particular transaction must provide advance notice to the other Directors and the Board of Statutory Auditors, specifying the nature, terms, origin and scope. In the case of the CEO, the latter must also refrain from executing the transaction, appointing the Board of Directors to do so. The BoD prepares rules (Article 2391-bis of the Italian Civil Code) for transparency and substantial and procedural correctness in transactions with related parties and discloses them in the Management Report. To this end, it may consider seeking the assistance of an independent expert, depending on the nature, value or characteristics of the transaction. The Board of Statutory Auditors oversees compliance with the adopted rules and refers to them in its report to the Shareholders' Meeting.

Following the favourable opinion of the Committee for Transactions with Related Parties, in 2018 the BoD approved a new Procedure for transactions with related parties (for more information see page 30).

Stakeholders can view any conflicts of interest within the Board of Directors in the annual Report on Corporate Governance and Ownership Structure, in particular: the appointments of directors or statutory auditors held by each Director in other listed companies, even abroad, as well as in financial, banking, insurance companies or companies of substantial dimensions, and any additional appointments. Information on ownership structure, specifically in regard to significant shareholdings and Shareholders' Agreements in force and information on related parties are also available in the report.

Directors actively participate in the meetings of the Board of Directors and the Board's Committees, receiving full information on the matters relative to the decisions to be taken. In addition to the many meetings of the BoD, some meetings were organised in which the Chief Executive Officer, Business Unit Directors or Senior Managers with strategic responsibilities illustrated the Group's long-term strategic planning process, the 2018-2023 Business Plan, and some of the Group's main initiatives, with a specific focus on sustainability objectives and targets, amongst other things. Furthermore, some seminars were organized to analyse the Group's contribution to the creation of value for the local areas in which it operates, and were made open to external guests.

The participation of the Board of Directors and the members of the Board of Statutory Auditors in courses and conferences were favoured and encouraged. This is part of a training and development programme on the tasks and responsibilities related to the office of members of the administrative and control bodies of listed companies, in line with the recommendations of the Code of Conduct, aimed at the members of corporate bodies in office.

All of the aforementioned initiatives were, in different ways, important opportunities to inform, educate and communicate, to those present, the corporate, economic, social and environmental aspects.

In line with the provisions of the Code of Conduct, at least once a year the Board of Directors carries out a self-assessment on itself and its committees (Board evaluation), as well as their size and composition. Bearing in mind the recommendations of the Italian Stock Exchange, attention was drawn to the critical areas identified by the BoD at the time of the Board evaluation, also to assess the efficacy of the corrective and improvement measures launched in 2017 and continued in 2018, following the suggestions made.

In light of the expiration of the current mandate, with the approval of the Financial Statements as at 31 December 2018, the Board of Directors currently in office will formulate its guidelines to the Shareholders on the composition of the new Board and on the professional and managerial figures whose presence in the administrative body would be advantageous. They provide their guidelines on the basis of an investigation conducted by the Remuneration and Appointments Committee and in accordance with the recommendations of the Code of Conduct. To this end, as part of the 2018 Board evaluation, some preparatory questions were introduced for the drafting of these guidelines, formulated as a collection of feedback on the possible qualitative and quantitative characteristics of the board and on the actions suggested in the first phase of assignment.

Iren's Board of Directors held 19 meetings in 2018.

The dates of the Board of Directors' meetings for the approval of the interim management reports, half-year report and draft Financial Statement and Consolidated Financial Statement are shown in the calendar of corporate events, approved by the Board of Directors, and published on the website.

## COMPOSITION OF THE BOARD OF DIRECTORS AT 31/12/2018

Name and surname	Office	Position (Consolidate Law on Finance)		Position (Code of Conduct)	
		Executive	Independent	Executive	Independent
Paolo Peveraro	Chairman	•		•	
Ettore Rocchi	Deputy Chairman	•		•	
Vito Massimiliano Bianco	Chief Executive Officer/Central Manager of Operations and Strategy	•		•	
Moris Ferretti	Director		•		•
Lorenza Franca Franzino	Director		•		•
Alessandro Ghibellini	Director		•		•
Fabiola Mascardi	Director		•		•
Marco Mezzalama	Director		•		•
Paolo Pietrogrande	Director		•		•
Marta Rocco	Director		•		•
Licia Soncini	Director		•		•
Isabella Tagliavini	Director		•		•
Barbara Zanardi	Director		•		•

## REMUNERATION AND APPOINTMENTS COMMITTEE

The Remuneration and Appointments Committee (RAC) is composed of non-executive Directors, the majority of whom are independent, from whom the President is chosen.

The RAC performs the duties concerning remuneration as provided for by the Code of Conduct (Principle 6.P.4 and Application Criterion 6.C.5) and appointments (Application Criterion 5.C.1 and 5.C.2), transposed in the Regulation approved by the BoD in 2018 and specifically:

- makes proposals to the Board of Directors regarding the definition of the remuneration policy for the Group's Directors and Senior Managers with strategic responsibilities, after conferring with the Control, Risk and Sustainability Committee of the Company, with regard to risk profiles;
- submits the annual Remuneration Report (Article 123-ter, Consolidated Law on Finance) for the approval of the BoD, for its presentation at the Shareholders' Meeting held to approve the financial statements for the year;
- periodically assesses the suitability, overall consistency and actual application of the remuneration policy, making use of the information provided by the competent Delegated Bodies and formulating proposals on the subject to the Board of Directors;
- presents proposals or expresses opinions to the BoD regarding the remuneration of executive Directors and other Directors with specific positions, as well as establishing short and medium/long-term performance objectives relating to the variable part of said remuneration;
- monitors the application of the decisions adopted by the BoD by verifying the actual fulfilment of short and medium/long-term performance objectives in particular;
- formulates proposals concerning the remuneration of the members of the Committees established within the Board itself for the BoD;
- advises on the annual board evaluation concerning the functioning of the BoD and its Committees, formulates opinions to the Board of Directors in relation to the size and composition of the Board and its Committees, and makes recommendations on the professional and managerial figures whose presence in the Board is deemed desirable;
- expresses recommendations to the Board of Directors in relation to the maximum number of appointments that members can take as Director or Statutory Auditor in other listed companies in regulated markets (even foreign), in financial, banking, insurance or relatively large companies, compatible with the efficient performance of the office of Company Director, bearing in mind the participation of Directors in the Committees established within the Board, as well as regarding any cases connected to the application of the bans on competition concerning Directors by Article 2390 of the Italian Civil Code;
- in line with the statutory provisions in force, proposes candidates to the BoD for the office of Director in cases of co-opting, where independent Directors need to be replaced, ensuring compliance with the requirements on the minimum number of independent directors and on the percentages restricted to the less represented gender;
- performs enquiries into preparation of the plan for the succession of executive Directors, should the Board of Directors decide to adopt such a plan;
- reports, through its Chairman, on the most important issues examined by the Committee at the first meeting of the Board of Directors;



- reports on the modes of operation for the functions of the to the Shareholders' Meeting called to approve the financial statements for the year.



### REMUNERATION OF MEMBERS OF THE BOD OF THE PARENT GROUP AND OF SENIOR MANAGERS WITH STRATEGIC RESPONSIBILITIES

The Shareholders' Meeting of Iren decides, upon appointment and for the entire duration of office, the total annual remuneration of the members of the Board of Directors and the maximum total amount for the remuneration of the Directors holding specific offices provided for in the Articles of Association.

The BoD decides the framework and remuneration of the Directors holding specific offices (Chairperson, Deputy Chairperson and Chief Executive Officer) and the remuneration for the participation of the Directors in the Committees established within the Board, based on the suggestion of the Remuneration and Appointments Committee and bearing in mind the opinion of the Board of Statutory Auditors. The Board of Directors also defines the objectives to which the variable annual short term component of the Chief Executive Officer's remuneration is related.

The Chief Executive Officer practically determines the remuneration of Senior Managers with strategic responsibilities and defines, in particular, the goals to which the variable annual short term component of the remuneration is related, with the support of the Remuneration and Appointments Committee and bearing in mind the provisions of the remuneration policy.

The Remuneration and Appointments Committee may confer with external consultants who are experts in retribution policies, checking in advance that they are not in situations that could jeopardise their independence of judgement. The names of any independent experts involved in preparing the remuneration policy must be indicated in the annual Remuneration Report.

The remuneration of non-executive Directors is not related to the economic results achieved but commensurate with the commitment required of each of them, bearing in mind their potential participation in one or more of the Committees within the Board of Directors.

For the Chairman and Deputy Chairman, a fixed remuneration has been established and no performance bonus is envisaged.

The Chief Executive Officer participates in the short and long-term incentives system as described in the Remuneration Report approved by the Shareholders' Meeting.

Generally, with respect to the regulations in force, indemnity is not provided for directorship severance for Iren Directors.

For the Chief Executive Officer, there is no provision for compensation in the event that the mandate is not renewed, however the treatment and severance indemnity established by law and the national collective labour agreement of reference are provided, as they hold a fixed-term management contract with Iren.

For the Chief Executive Officer and Senior Managers with strategic responsibilities, the variable part of their remuneration is divided into two parts: short-term and long-term. The first is based on an MBO (management by objectives) system taking into consideration objectives that impact various outlooks, from financial to relationships with customers and stakeholders, to the people and environmental dimension, as well as objectives linked to the efficiency and improvement of processes. Upon achievement of all the targets, the remuneration may be as high as approximately 31% of the fixed retribution. A gate (preliminary to any disbursement) is provided in order to maintain the investment grade attributed by one of the three major Rating Agencies. The objectives for Senior Managers, which are always defined in line with horizontal and vertical consistency at a Group level and within individual business units, also form the foundation of the management by objectives system used for Senior and Junior managers, which are assigned via cascading objectives.

The long-term variable (LTV) remuneration introduced in 2015 is monetary, with annual amounts of up to 25% of the fixed remuneration (upon achieving all the objectives); the objectives are related to achieving two economic objectives (EBITDA and cumulative net profit) established in the Group's Business Plan for the 2015-2018 period, at the end of which the remuneration may be disbursed. In addition, the maintenance of the investment grade attributed by one of the three major rating agencies is provided for as a gate. From 2019 onwards, a new long-term incentive system will be launched, with basic characteristics similar to those of the previous system, yet with corrective measures linked to sustainability.

Claw-back clauses are provided for in the regulations of both systems (MBO and LTI).

No entry bonuses or specific incentives at the moment of appointment/taking office are adopted. The severance indemnities and supplementary pensions provided for Senior Managers with strategic responsibilities are those established by law and national collective labour agreements.

Iren prepares an annual Remuneration Report (which may be referenced for more information) which illustrates the remuneration policy for members of the Board of Directors and Senior Managers with strategic responsibilities, among others. The Report is aimed at increasing the knowledge and awareness of shareholders and, in general, of investors and stakeholders. The First Section of the Report is subject to the (non-binding) voting for approval in the Shareholders' Meeting. The Chairperson of the Remuneration and Appointments Committee or other member of the Committee are required to be present at the annual Shareholders' Meeting for approval of the financial statement to report to the shareholders on how the Committee performs the functions assigned to it. After the

Meeting, the Remuneration and Appointments Committee analyses the results of voting on the annual Remuneration report, examines any concerns arising at the Shareholders' Meeting and commences its assessments for reviewing the Remuneration Policy adopted by the Group. The Shareholders' Meeting held on 19 April 2018 resolved to express a favourable opinion on the First Section of the Remuneration Report for 2017. After the Meeting, the Remuneration and Appointments Committee began to analyse the topic, aiming to incorporate the indications that emerged during the meeting and to improve communication of the remuneration policies adopted by Iren to the market. The analysis was performed in line with the guidelines formulated by the Committee for Corporate Governance within the context of the 6th Report on the application of the Code of Conduct and bearing in mind the new directive on shareholder rights (2017/828/EU). The Committee availed itself of the assistance of the competent Group bodies and respective advisers to conduct this analysis.

### CONTROL, RISK AND SUSTAINABILITY COMMITTEE

In light of the importance attributed to corporate social responsibility by Iren Group, the Board of Directors decided to implement the recommendation contained in the Code and resolved to attribute preliminary oversight duties on corporate social responsibility concerning sustainability to the Control, Risk and Sustainability Committee (CRSC).

In line with the provisions of the Code of Conduct, the BoD defines the nature and the level of risk compatible with the Group's strategic objectives, evaluating the suitability of the organisational structure with particular reference to the internal control and risk evaluation system. In performing this role, the BoD is assisted by the Control, Risk and Sustainability Committee, which provides the BoD with a preliminary opinion on the fulfilment of the duties assigned to the latter concerning internal control, risk management and sustainability.

The Board of Statutory Auditors also monitors the effectiveness of the internal control and risk management system.

The Control, Risk and Sustainability Committee is made up of three non-executive directors, the majority of which are independent, with the Chairman chosen from the independent directors. At least one member of the Committee has appropriate experience in accounting and finance or risk management (deemed adequate by the Board of Directors upon their appointment).

In line with Application Criteria 7.C.1 and 7.C.2 of the Code of Conduct and with the additional oversight duties of corporate social responsibility identified by the BoD, the CRSC is attributed the following tasks:

- to express preliminary opinions with respect to resolutions of the BoD on a series of issues, including the appointment/revocation and remuneration of the Manager of the Internal Audit Unit;
- to assess, together with the Financial Reporting Manager, and after consulting the independent auditors and the Board of Statutory Auditors, the proper use of accounting policies, and

in the case of Groups, their uniformity for the purpose of drafting the Consolidated Financial Statements;

- to express opinions on specific aspects relative to identifying the main corporate risks (in particular, specific aspects relative to Risk Policies, the identification of the main company risks and the Audit Plan, as well as in regard to the guidelines of the internal control and risk management system);
- to examine the periodic reports on the assessment of the internal control and risk management system and those of particular relevance drafted by the Internal Audit Unit;
- to monitor the autonomy, adequacy, effectiveness and efficiency of the Internal Audit Unit;
- to request that the Internal Audit Unit carry out checks on specific operating areas, providing simultaneous communication to the Chairman of the Board of Statutory Auditors;
- to report to the BoD, at least every six months, upon approval of the annual and interim Financial Report, on its activity and on the adequacy of the internal control and risk management system;
- through suitable preliminary activities, support the assessments and decisions of the Board of Directors relating to the management of risks arising from detrimental acts of which the Board of Directors has become aware;
- to monitor sustainability policies and compliance with the conduct principles adopted by the Company and its subsidiaries;
- to examine the guidelines in the sustainability plan and monitors the means of implementation;
- to assess, together with the competent Group Department and having consulted the external auditor, the correct use of the standards adopted in order to draft the non-financial information provided for by the legislations in force;
- to monitor the evaluation and improvement system for environmental, economic and social impacts that arose from business activities in the local areas;
- to examine the periodic reports on the implementation of the structured comparison measures with stakeholders in the local areas where the Group operates, in particular through Local Committees, and those concerning consistency with corporate social responsibility issues of cultural activities and promotion of the Group's image.

The BoD of Iren, through the Control, Risk and Sustainability Committee, convenes with the Risk Management Director at least every six months for the Group risk report. In accordance with the Code of Conduct, the Risk Management Director presents a risk map with the main risks in terms of impact and probability and any mitigating actions, in addition to providing the results of specific analyses.

The Group's other control bodies are also present in the meetings. Furthermore, the Group's risk policies are subject to annual update. The body responsible for approving substantial changes is the BoD. Furthermore, the Committee asks the Risk Management Director



for a specific risk assessment for specific Group projects. In 2018, the Committee requested that the Risk Management Director conduct a risk assessment of the Business Plan to 2023. M&A transactions evaluated during the year were also subject to detailed analysis.

The Risk Management and Corporate Social Responsibility and the Local Committees Departments convene at least twice a year by the Control, Risk and Sustainability Committee – meeting once before the approval by the Board of Directors of the Consolidated Financial Statements and the Sustainability Report.

### COMMITTEE FOR TRANSACTIONS WITH RELATED PARTIES

The Committee for Transactions with Related Parties (CTRP) is made up of three directors in possession of the independence requirements pursuant to the Consolidated Law on Finance (Articles 147-ter, subsection 4 and 148, subsection 3) and the further requirements provided for by the Code of Conduct (Article 3).

The new Procedure concerning transactions with related parties, approved by the Board of Directors in 2018, defines the following:

- a more precise definition of the concepts relevant to the application of the Procedure itself, as well as the identification of the persons classified as Related Parties of the Group;
- the establishment of the Evaluation Commission for Transactions with Related Parties, with the function of permanently overseeing the process of evaluating transactions and filtering between management and the parties responsible for investigating transactions (typically, the Committee for Transactions with Related Parties);
- the regulation of information flows, with a view to improving quality and in terms of the relative time-frames.

The new Procedure also incorporates the amendments made to the Regulation containing provisions on related party transactions (CONSOB Resolution no. 19974/2017 implementing Regulation (EU) no. 596/2014) concerning market abuse. In accordance with the provisions of the CONSOB Regulation, transactions with related parties were divided into transactions of greater importance, transactions of lesser importance and transactions for small amounts, with the provision of procedural arrangements and transparency differentiated according to the type of transaction.

A central role was assigned to the Committee for Transactions with Related Parties, made up of independent Directors not related to the individual transaction in question. In order to guarantee the double requirement of independence and non-relation in the individual transaction up for examination, the Procedure outlines the mechanisms for identifying any persons responsible, as an alternative, for the investigation. Specifically, the following is provided:

- where possible, the CTRP is integrated with other independent Directors who are not related to the individual transaction to be investigated by the BoD, assigning the BoD the task of identifying a sub-committee made up of three independent and unrelated Directors in relation to the individual transaction to be investigated;

- when there is not a single member of the CTRP or of the Board of Directors who meets the requirements of independence and non-relation, the Board of Statutory Auditors or an Independent Expert appointed by the BoD will be invested with the task of providing alternative controls.

In cases of transactions involving the remuneration of directors and Senior Managers with strategic responsibilities, the Remuneration and Appointments Committee assumes responsibility for the matter, limited to cases where the Committee meets the minimum requirements of independence and non-relation of its members as required by the CONSOB Regulation.

### BOARD OF STATUTORY AUDITORS

The Board of Statutory Auditors in office as at 31 December 2018 was appointed by the Shareholders' Meeting of 19 April 2018 (for three years until approval of the Company's financial statements as at 31 December 2020) and is composed of 3 Standing Auditors and 2 Alternate Auditors.

Articles 28 and 29 of the Articles of Association regulate the appointment of the Board of Statutory Auditors through the submission of the lists in order to guarantee an adequate presence of the less-represented gender within the body (Article 3 of Italian Law 120/2011 and Implementation Ruling by Italian Presidential Decree 251/2012).

The Board's supervisory activities are exercised via:

- the analysis of acquired information and the attendance of the meetings of the governing bodies, including internal committees established by the Board of Directors;
- the exchange of information with Directors and the control bodies of subsidiaries, as well as with other company roles and departments;
- the periodic acquisition of information from Chief Executive Officers;
- the acquisition and request, also by a single Auditor, of information from the Financial Reporting Manager and persons in charge of internal control;
- the exchange of information with the statutory auditor or the independent auditors, with regard to the functions that fall under its competency;
- analysis of information flows acquired from the competent company bodies and departments, with specific tasks concerning internal control and risk management.

Generally, the supervisory activity of the Board of Statutory Auditors aims to assess the adequacy of the identification, measuring, management and monitoring system for existing corporate risks, as well as to verify the appropriate and prompt application of corrective actions held to be suitable for reducing company risks to levels considered acceptable by the BoD when defining the business strategy.

More specifically, the Board of Statutory Auditors verifies:

- the compliance of the acts and deliberations of the governing bodies, statutory provisions and the Code of Conduct, as well as the tangible means of implementing the same;



- the compliance of management choices with the principles of correct administration and, thus, with the general criteria of economic rationality, such as control of substantial legitimacy and compliance with the operative procedures and/or practices in force;
- the adequacy of the organisation structure compared to the size and complexity of the Company, placing particular attention on the completeness of existing company departments, on the separation and on contrasting responsibilities in the functions and duties, as well as the clear definition of mandates or powers of each department;
- the adequacy of the internal control system in relation to the size and complexity of the company and the sector in which the Group operates, as well as strategic objectives;
- the adequacy of the procedures adopted by the Board of Directors to regulate transactions with related parties, as well as the compliance of the same with the laws on transparency and public information in this regard.

#### GOVERNANCE SYSTEM OF GROUP COMPANIES

Iren Ambiente, Iren Energia, Iren Mercato and Ireti have a traditional corporate governance system (Board of Directors with administrative roles and a Board of Statutory Auditors with administrative control, both appointed by the Shareholders' Meeting), with a Board of Directors composed of 3 members, in the case of the first three Companies, and by 4 members, in regards Ireti.

According to the forecasts of the current Shareholders' Agreement (FSU – former Enia Public Shareholders), the Chief Executive Officer of Iren proposes the Chief Executive Officers of the aforementioned Companies, while the Chairman and Directors are put forward by the Iren Board of Directors and, generally, chosen within the Group.

In regard to the other companies reported in this Sustainability Report, the traditional governance system is the one predominately adopted, with a monocratic composition of the administrative body in some cases and a collegial composition in others. The designations of competence of the Group within the governing bodies are disciplined by the Articles of Associations and Shareholders' Agreements in force for each Company.

Iren's management and coordination of Iren Ambiente, Iren Energia, Iren Mercato and Ireti is expressly provided and governed by the Iren Articles of Association and those of the aforementioned Companies. For other subsidiaries, management and coordination, where not expressly governed by the respective Articles of Association, derives from the organisational structure in which the Business Departments report to Iren's Chief Executive Officer.

In order to ensure the creation of value over time for shareholders and all other stakeholders, the Board of Directors is made responsible for drafting sustainability policies and conducting principles to be adopted at a Group level. They are also charged with defining a sustainability plan (strategic priorities, commitments and objectives) establishing the economic, environmental and social responsibility of the Group.

#### COMPOSITION OF THE BOARD OF STATUTORY AUDITORS AND COMMITTEES AT 31/12/2018

Remuneration and Appointment Committee	Control, Risk and Sustainability Committee	Committee for Transactions with Related Parties	Board of Statutory Auditors	
Marta Rocco (Chairperson)	Paolo Pietrogrande (Chairperson)	Barbara Zanardi (Chairperson)	Michele (Chairperson)	Rutigliano
Moris Ferretti	Alessandro Ghibellini	Lorenza Franca Franzino	Simone (Standing Auditor)	Caprari
Isabella Tagliavini	Marco Mezzalama	Licia Soncini	Cristina Chiantia (Standing Auditor)	
			Donatella Busso (Alternate Auditor)	
			Marco Rossi (Alternate Auditor)	



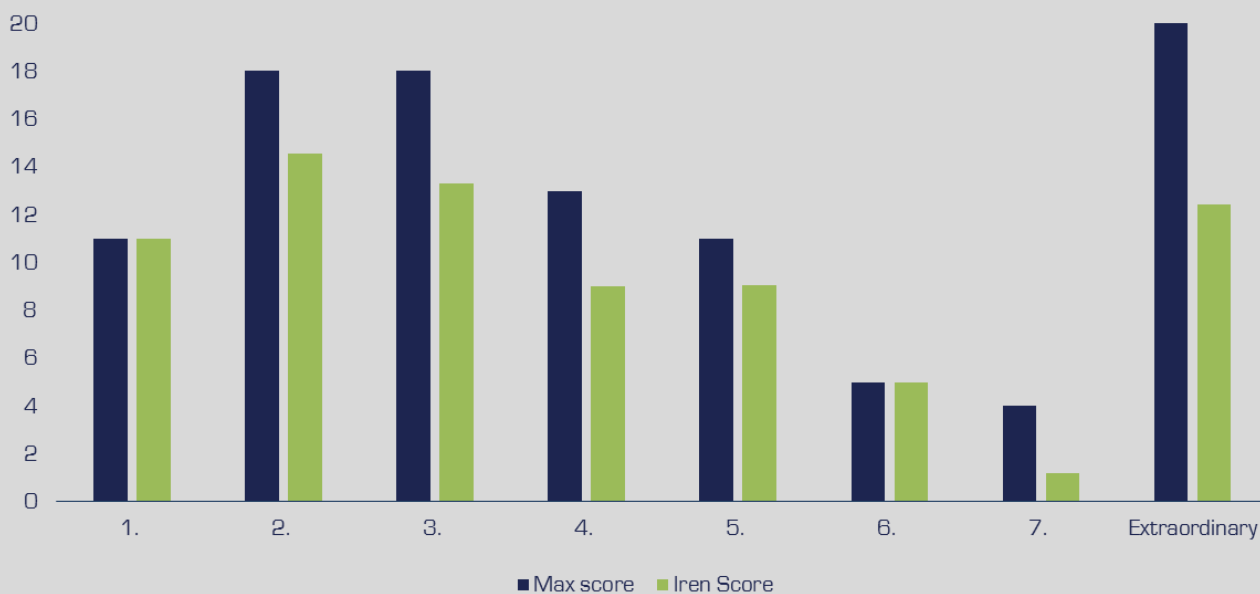
## Focus

### IREN IN THE INTEGRATED GOVERNANCE INDEX

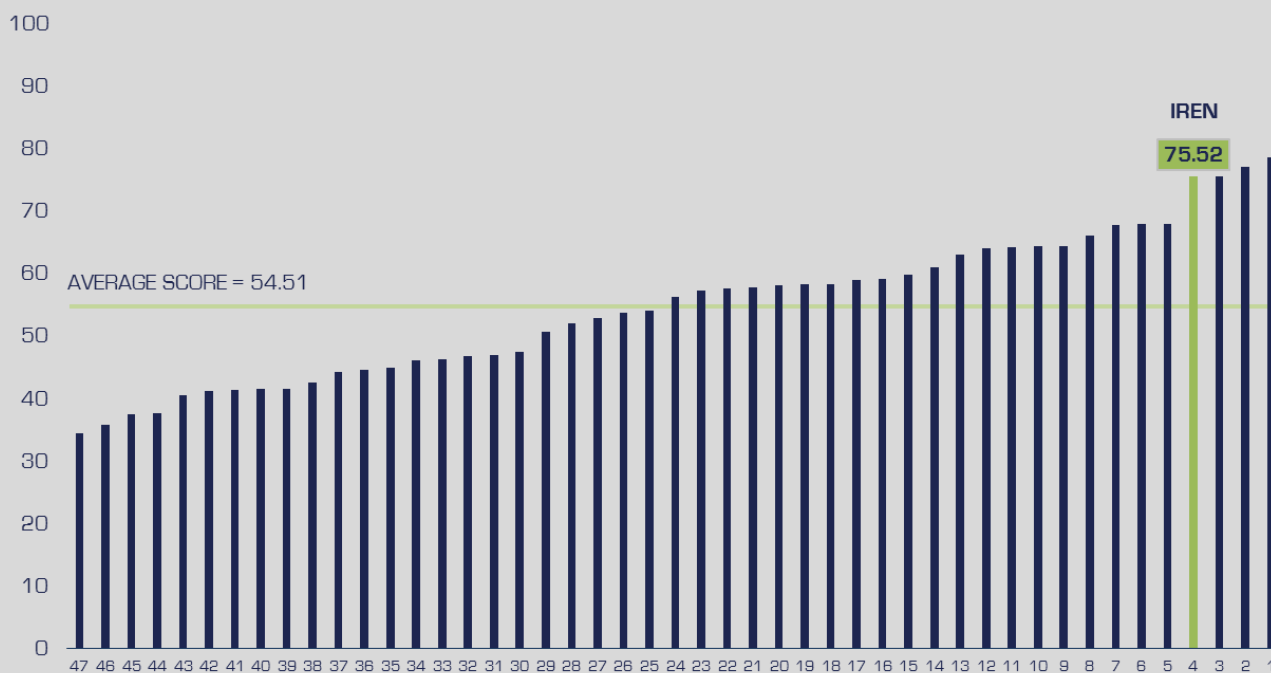
The Integrated Governance Index, promoted by ETicaNews and TopLegal, with the scientific support of Nedcommunity, Andaf, Methodos and Morrow Sodali, is the first national Observatory on the degree of integration of sustainability in business strategies. The 2018 edition involved almost 50% of the top 100 companies on the stock exchange and saw Iren ranked in 4th place. The details of the analysis conducted are given below.

#### AREAS OF ANALYSIS

- |  |   |
|--|---|
| 1. Code of Conduct for Listed Companies and sustainability | 5. Board committees and sustainability                  |
| 2. Diversity, professionalism, independence of the Board   | 6. Materiality  |
| 3. CSR integrated into pay                                 | 7. Succession plans                                     |
| 4. CSR integrated into business strategies                 | Extraordinary (Links between Companies and finance Sri) |



#### 2018 IGI POSITIONING



# Strategies and policies for sustainability



## IMPORTANT TOPICS



Value and economic development for local areas



Fight against corruption



Human rights



Compliance with laws and regulations



## MISSION, VISION AND VALUES

The mission and vision underline the desire to integrate environmental and social sustainability into the Iren Group's development plans, as set out in the Business Plan to 2023 approved by the Board of Directors.

**Mission:** offer our customers and areas the best integrated management of energy, water and environmental resources, with innovative and sustainable solutions in order to create value over time. For everyone, every day.

**Vision:** improve people's quality of life. Make companies more competitive. Look at territorial growth with a focus on change. Merge development and sustainability into a unique value. We are the multi-utility company that wants to build this future through innovative choices. For everyone, every day.

In line with its mission and vision, the **values** on which the Iren Group bases its strategy are: responsibility, belonging, customer satisfaction, employee growth and enhancement, teamwork, transparency, change, flexibility and sustainability.

The mission, vision and values are integral parts of the Group's Code of Ethics and lie at the core of the business of sharing with personnel, which was developed in 2018.

## THE STRATEGIC PLAN TO 2023

The most important global macro-trends until 2030, which, in the coming years, will become decisive for achieving the growth and development goals of the Strategic Plan to 2023, on which the Group focuses its attention include:

- **energy transition:** growing competition will accelerate the consolidation process already in motion. Technological progress will produce smarter networks, generating new business models, while the expansion of renewable sources will drive greater thermoelectric flexibility;
- **sustainable resources:** the circular economy will become increasingly dominant, creating new scenarios in the waste treatment sector. Water resource management will entail technological innovation and high investments. The gap to be bridged in energy efficiency will open up new opportunities, while district heating will become increasingly characterised by the convergence between renewable sources and digitisation;
- **technological revolution:** machine learning algorithms will change the way we face operative costs and credit management, while digitisation will create new ways of relating with customers and suppliers;
- **the central role of the customer:** it will change the paradigm from passive user to active prosumer, completely digital, thanks to the development of distributed generation; e-mobility, shared mobility and autonomous driving will change the way in which we move and how distances are perceived.

### STRATEGIC PILLARS

Taking these macro-trends as a starting point, the Business Plan to 2023 defined the following strategic pillars.



- **Customers:** the redefinition of the role of the customer/citizen, increasingly active and participative in purchase decisions, guides investments towards digital customer relations processes and towards a plan for the development of innovative services with high added value (electrical mobility, energy efficiency and New Downstream).
- **Organic growth:** generated by the development of the integrated water service, to activities in favour of customers, to district heating, waste treatment plants and participation in gas tenders.
- **Efficiency:** with a further action to increase efficiency in addition to the synergies already achieved in the previous three years. The goal of 65 million Euro in synergies planned for the next 6 years will mainly be achieved through Performance Improvement initiatives.
- **Environmental Sustainability:** the definition of ESG (Environment, Social, Governance) targets in response to the objectives set by the United Nations. The commitments made concern climate change, water resources, the circular economy, decarbonisation and resilient cities.
- **People:** strong focus on skills and on a flexible and efficient organisation, through improving the Talent & Performance Management processes in terms of intelligent selection of human resources, growth through training and incentives for the same. Major generational turnover supported by the recruitment of new resources to a greater extent with respect to the numbers leaving.
- **Digitisation and innovation:** the direct creation of Industry 4.0 and digitisation projects (200 million Euro) in order to increase efficiency and offer services to customers/citizens in line with the needs arising. A Corporate Venture Capital programme in a structured open innovation process must be added to this.

The Business Plan defines explicit **environmental, social and economic-financial objectives and targets**.

# ENVIRONMENTAL OBJECTIVES

	WATER SOURCES		CIRCULAR ECONOMY		DECARBONIZATION		RESILIENT TOWN	
<b>CLIMATE ACTION</b>	<ul style="list-style-type: none"> <li>Excellence in water networks</li> <li>Reduction in network leaks</li> <li>Reduction in drinking water taken from the environment</li> <li>Higher purification capacity and quality</li> <li>Re-use of purified water for agriculture</li> </ul>		<ul style="list-style-type: none"> <li>Higher sorted waste percentage</li> <li>Extension of «pay-as-you-throw» systems</li> <li>Higher recycling in Group's plants</li> <li>Energy production from non-recoverable waste</li> <li>Zero landfill for urban waste</li> </ul>		<ul style="list-style-type: none"> <li>Reduction in GHG emission</li> <li>DH networks development</li> <li>Renewables</li> <li>Energy efficiency in production</li> <li>Energy efficiency services for Clients</li> <li>Education towards sustainability</li> </ul>		<ul style="list-style-type: none"> <li>Electricity storage systems</li> <li>Smart grid</li> <li>Smart metering</li> <li>LED in public lighting</li> <li>Distributed photovoltaic generation</li> <li>Sustainable mobility</li> <li>Industry 4.0</li> </ul>	
<b>2023 MAIN TARGETS</b>	Wastewater treatment capacity	+14%	Recoverable waste treated in our plants	43%*	CO <sub>2</sub> emissions	-5%	District heated volumes	+11%
	Reduction in network leaks	+5%	Sorted waste for inhabitant	+18%	Energy savings (ToE)	+10%	Eco-vehicles on the total fleet	26%*

\* Percentage reached in 2023

# SOCIAL OBJECTIVES

	CUSTOMERS / CITIZENS	IREN PEOPLE
<b>TARGETS TO 2023</b>	<p><b>Digital approach for retail services</b></p> <ul style="list-style-type: none"> <li>50% digital operations by 2021</li> <li>full digital process based on "always on" service and enrichment of the smart products portfolio</li> <li>30% self care operations by 2021</li> <li>new concept of stores and front offices for a multichannel experience</li> </ul> <p><b>Digital approach for waste services</b></p> <ul style="list-style-type: none"> <li>smart equipment, optimization of logistics and real time monitoring to address customer needs and improve quality of life in the cities</li> <li>easier interaction and full service traceability to improve citizens relationships</li> </ul>	<p><b>Skills development</b></p> <ul style="list-style-type: none"> <li>training and reskilling digital skills</li> <li>hiring of millennials and topic experts for new competencies (i.e. analytics, mechatronics, digital models)</li> </ul> <p><b>Agile &amp; Smart Organization</b></p> <ul style="list-style-type: none"> <li>lean processes and structure</li> <li>collaboration, smart working &amp; diversity inclusion</li> <li>smart workflow &amp; excellence</li> </ul> <p><b>Talent and performance management</b></p> <ul style="list-style-type: none"> <li>Group job system</li> <li>performance management</li> <li>talent selection and development</li> </ul>

# ECONOMIC-FINANCIAL OBJECTIVES

	INVESTMENTS	EBITDA	NET PROFIT AND DIVIDEND
<b>TARGETS TO 2023</b>	<p><b>about 3.0 billion Euro of cumulated capex:</b></p> <ul style="list-style-type: none"> <li>about 1 billion Euro in the Water Cycle Management</li> <li>900 million Euro linked to development, mainly in district heating, energy efficiency, waste and gas tenders</li> <li>200 million Euro devoted to digital projects</li> </ul>	<p><b>Ebitda at 1,020 million Euro</b></p> <ul style="list-style-type: none"> <li>about 200 million Euro growth in 6 years</li> <li>combined effect of organic growth, supported by greater investments, and consolidation</li> <li>further synergies of about 65 million Euro</li> <li>stability of regulated and quasi-regulated activities</li> </ul>	<p><b>300 million Euro of net profit</b></p> <ul style="list-style-type: none"> <li>about 60 million Euro growth in 6 years thanks to the improvement in financial management</li> </ul> <p><b>10% annual growth rate of dividend per share</b></p> <ul style="list-style-type: none"> <li>further improvement in dividend policy</li> <li>average 50% pay-out ratio from 2019</li> </ul>

In the context of such initiatives, in order to communicate objectives, actions and results to stakeholders, the Sustainability Report is also a management instrument that makes it possible to

monitor compliance of operations with Iren Group's sustainability strategy.



## INSTRUMENTS OF CORPORATE SOCIAL RESPONSIBILITY

The strategies of Iren Group and the business objectives, also with particular regard to sustainability, are defined by the Board of Directors of the parent company, which examines the risks and opportunities connected to the socio-environmental and economic context when approving the Business and Financial Plan, the Annual Budget and the Sustainability Report.

In 2018, the Board of Directors updated the strategic plan to 2023, including sustainability objectives and targets in the Plan, as detailed on page 34. The BoD is updated by the Deputy Chairman, a body appointed to govern the topic, on the status of the sustainability projects and stakeholder engagement activities.

Through Local Committees, stakeholders can also draw the Group's attention to issues concerning services and environmental and social sustainability topics. The Committees are established on a provincial basis and Iren's Chairman and Deputy Chairman are always amongst the members of each Committee.

The consultations concerning sustainability between the interested parties and the highest governing body are appointed to the Deputy Chairman who, through the Corporate Social Responsibility and Local Committees Department, is responsible for maintaining an open dialogue with the internal and external stakeholders on these topics. The results of this dialogue generate project ideas for the improvement of environmental and social performance and are reported annually in the Sustainability Report.

The Board of Directors analyses and approves the Sustainability Report which fulfils the role of non-financial statement (NFS) pursuant to Italian Legislative Decree 254/2016, which is prepared annually to provide information relevant to its performance in the environmental, social and economic context, and to transparently communicate compliance with the commitments undertaken, future commitments and the ability to meet stakeholder expectations.

The Sustainability Report is prepared by the Corporate Social Responsibility and Local Committees Department, acting under direct employment of the Deputy Chairman of Iren Group, who is appointed with via proxies for this purpose.

The Control, Risk and Sustainability Committee assesses the correct usage of the standards for preparing the Sustainability Report adopted by the Group together with the Corporate Social Responsibility Department and Local Committees and having consulted the external auditor.

The 2018 Sustainability Report was approved by the Board of Directors on 12 April 2019, when completeness and consistency with the topics reported in the materiality matrix were also evaluated.

The following tasks are attributed to the Corporate Social Responsibility and Local Committees Department:

- oversight and management of activities for the Group's non-financial report pursuant to Italian Legislative Decree 254/2016 and the presentation to stakeholders;
- definition and verification of the application of guidelines concerning the non-financial reporting of Group Companies;
- definition of the improvement plan regarding the Group Corporate Responsibility;
- processing and supply of data and information for sustainability ratings;
- definition of sustainability impacts, targets and objectives for the Group's strategic plans, budgets and finance, in coordination with Strategic Planning, Finance and BUs;
- definition of the guidelines for the Group's balanced scorecard;
- definition of the engagement plan, management and analysis of the results from the dialogue with stakeholders;
- issue and update of the Code of Ethics, in collaboration with the Internal Audit and Compliance department;
- issue and update of the operational Regulations for the Local Committees;
- establishment and management of the Local Committees and the on-line platform IrenCollabora.it;
- coordination of projects promoted by Local Committees;
- creation of Group customer satisfaction surveys;
- participation in working tables and initiatives on corporate social responsibility and non-financial reporting;
- participation in the Sustainable Financing Committee set up to identify the investments with positive environmental impacts within Group investments.

## INTERNAL CONTROL AND RISK MANAGEMENT SYSTEMS

Pursuant to the Code of Conduct and internal guidelines, the Iren Group has an Internal Control and Risk Management System, which is configured as a cross-cutting process that involves, with different roles and within the context of their respective roles, the administrative bodies (Board of Directors, Control, Risk and Sustainability Committee, Appointed Bodies), the Director Appointed for the internal control and management of risks and sustainability, the Internal Audit Manager, the Risk Management Manager, the Board of Statutory Auditors and the Financial Reporting Manager, as well as all personnel of Iren Group companies.

In particular, the Board of Directors assesses the adequacy of the Internal Control and Risk Management System compared to the characteristics of the company and the indications expressed in the Guidelines, and carries out the following tasks, subject to the opinion of the Control, Risk and Sustainability Committee:

- defines the guidelines of the Internal Control and Risk Management System so that the main risks relevant to the Group are correctly identified, as well as adequately measured, managed and monitored, also determining the

level of compatibility of such risks with business management consistent with the strategic objectives identified;

- at least once a year, assesses the adequacy of the Internal Control and Risk Management System relevant to the characteristics of the business and the risk profile undertaken, as well as its efficacy;
- at least once a year, approves the work plan prepared by the Internal Audit department and submitted by the competent Delegated Body, subject to the opinion of the Board of Statutory Auditors and the Director appointed by the internal control and risk management system (if not corresponding to the competent delegated body);
- describes, in the corporate governance report, the main characteristics of the Internal Control and Risk Management System and the coordination methods between parties involved in the system, expressing an opinion on its adequacy;
- assesses the results presented by the statutory auditor, subject to the opinion of the Board of Statutory Auditors, in the letter of suggestions and in the report of the crucial issues arising during the legal audit;
- defines “sustainability” policies and conduct principles in order to ensure the creation of value over time for shareholders and for all other stakeholders;
- defines a sustainability plan (strategic priorities, commitments and objectives) for the development of the economic, environmental and social responsibility of the Group;
- upon proposal of the competent Delegated Body and the Chairperson, subject to the approval of the Control, Risk and Sustainability Committee and the opinion of the Board of Statutory Auditors, appoints and dismisses the Internal Audit manager ensuring that they are provided with the adequate resources for the fulfilment of their responsibilities and defines their remuneration in line with company policies.

As part of the Report, pursuant to the Code of Conduct, submitted every six months to the Control, Risk and Sustainability Committee, the Internal Audit Manager, reports the results of the Internal Audit department’s audits, as well as the follow-up with the progress of the actions carried out based on the audits from previous years.

In turn, the Committee, on the basis of the information received, reports every six months to the BoD, pointing out the critical areas identified and expressing its opinion on the Internal Control System.

## RISK MANAGEMENT<sup>(1)</sup>

An essential component of the Internal Control System of corporate governance of a listed Company is risk management and the Code of Conduct of the Italian Stock Exchange attributes specific responsibilities in this regard.

The Enterprise Risk Management operating model of Iren Group defines the methodological approach to the identification,

assessment and integrated management of the risks for the Group, which are broken down into the following phases:



Each phase of the process is performed in accordance with standards and references defined at Group level.

*The aim of the Enterprise Risk Management model is the integrated and synergistic management of risks*

The Group’s Enterprise Risk Management model regulates the roles of the various parties involved in the risk management process, which falls under the responsibility of the Board of Directors and includes specific Committees that are responsible for the management of each type of risk.

The Enterprise Risk Management system focuses particularly on the management of financial, credit, energy, operational and reputational risks.

Specific policies have been defined for each type of risk with the primary goal of meeting strategic guidelines, the organisational/managerial principles, the macro processes and techniques necessary for active management.

The types of risk managed include:

- financial risks (liquidity, interest rate, exchange rate);
- credit risks;
- energy risks, attributable to the supply of gas for the thermoelectric generation and the commercialisation of electricity and gas, as well as the hedging derivatives markets;
- operational risks, attributable to asset ownership, the exercise of business activities, the processes, and the procedures and flows of information (cyber risk). Also included are the rules and regulatory risks, whose impact on the business is monitored on an ongoing basis;
- reputational risks related to the impacts on stakeholders of any malpractices;

<sup>(1)</sup> Further details in the Iren Group 2018 Consolidated Financial Statements.



- social and environmental risks integrated within the governance of the Enterprise Risk Management model. The analysis of these risks refers to the Environmental, Social and Governance (ESG) standards and lies at the foundation of the risk matrix prepared with specific reference to the risk assessment.

Specifically, the assessment of environmental and social risks analyses the main risks, derived from the Group's activities and identifies the management measures to mitigate them, in relation to the organisational-management model and the policies adopted, as provided for by Italian Legislative Decree 254/2016, Article 3, and illustrated in the tables below.

## ENVIRONMENTAL SECTOR

Important Topics	Risk factors	Management method
<b>Policies:</b> Iren Group's QSA policies, Code of Ethics, Mission, Vision and Values, Strategic Memorandum@2030, the Business Plan @2023 in line with the SDGs		
<b>Energy efficiency, renewable sources and district heating</b> <b>Sustainable use of water resources</b> <b>Use of energy resources (produced from renewable and non-renewable sources)</b> <b>Emissions (greenhouse gases and atmospheric emissions)</b> <b>Impact on the environment, health and safety</b> <b>Biodiversity</b> <b>Circular economy: management, separated waste collection and reuse of waste</b> <b>Innovation and smart cities</b> <b>Responsible management of business segments</b> <b>Sustainable management of the supply chain</b> <b>Efficient and reliable services</b>	<ul style="list-style-type: none"> <li>• Failure to achieve the environmental targets provided by the Business Plan and subsequent negative operational, economic and reputational impacts and in terms of the Group's access to funding sources, such as Green Bonds</li> <li>• The Group's environmental footprint that is not in line with the objectives of the Business Plan and national and international commitments for reducing the environmental impact</li> <li>• Accidentally exceeding the emission thresholds provided by the Integrated Environmental Authorisations due to the malfunctioning of plant components and/or control systems or in the event of unsuitable waste that has not been identified by the control systems being disposed of in waste-to-energy plants</li> <li>• Loss of the 14001, EMAS and 18001 certifications with the subsequent loss of the Environmental Authorisations and a reduction in insurance guarantees</li> <li>• The incorrect treatment of waste by employees or suppliers of Iren Group Companies with subsequent possible sanctions</li> <li>• Negative environmental impacts and the subsequent negative reputational and economic impacts</li> <li>• Negative impacts on health and safety and the negative reputational impacts that derive from the same</li> </ul>	<ul style="list-style-type: none"> <li>• Planning and control of the actions and investments necessary to achieve the targets of the Business Plan and the Green Bonds</li> <li>• Certified Management System: risk assessment and the relative containment measure plan, third-party checks (audits by certification and control bodies)</li> <li>• Internal control and risk management system (policy and risk map)</li> <li>• Model 231</li> <li>• Procedures for Environmental Analysis of the environmental aspects/impacts and related actions</li> <li>• Procedures/Instructions: management and control of water withdrawals and discharges; management of atmospheric emissions of the waste-to-energy plants and thermoelectric plants; emergency management aimed at returning to the set emission thresholds within specific time frames; special waste management; management of accidental spills of hazardous and/or pollutant substances; management and maintenance of vehicle fleet</li> <li>• Water resources monitoring plans</li> <li>• Continuous emission monitoring systems</li> <li>• Maintenance plans, including predictive plans</li> <li>• Environmental Authorisations (IEA and SEA)</li> <li>• Emergency management plans</li> <li>• Iren Group Consolidated Text on Procurement</li> <li>• Requirements in the specifications regarding the tracing of waste and timely checks</li> <li>• Supplier qualification profiles</li> <li>• Supplier monitoring via questionnaires</li> <li>• Audit system for the most significant and potentially sensitive contracts concerning environmental protection and health and safety</li> <li>• Green bond framework</li> <li>• MBO including environmental targets</li> </ul>

## SOCIAL SECTOR

Important Topics	Risk factors	Management method
<b>Policies:</b> Iren Group's QSA Policies, Code of Ethics, Mission, vision and values, Business Plan @2023, Local Committees, Job System		
<b>Dialogue with social partners</b> <b>Industrial relations</b> <b>Internal and external communication</b>	<ul style="list-style-type: none"> <li>• Disruption of relations with trade unions and the subsequent negative operational and reputational impact</li> </ul>	<ul style="list-style-type: none"> <li>• Certified Management System</li> <li>• Model 231</li> <li>• Protocol on Group industrial relations</li> <li>• Structured relationships with employer organisations and representative entities</li> <li>• Constant update on legal and contractual regulations</li> <li>• Structured methods for all personnel development, management and acquisition areas</li> <li>• Continuous personnel training with human resources management responsibilities</li> </ul>



Important Topics	Risk factors	Management method
<b>Policies:</b> Iren Group's QSA Policies, Code of Ethics, Mission, vision and values, Business Plan @2023, Local Committees, Job System		
<b>Relations with consumers</b> <b>Customer satisfaction</b> <b>Efficient and reliable services</b> <b>Service levels offered, customer focus and changes in customer expectations</b> <b>Marketing policies</b> <b>Internal and external communication</b>	<ul style="list-style-type: none"> <li>• Loss of customers</li> <li>• Errors in service charges and credit management</li> <li>• Fraudulent acquisition of customer data by third parties, also following on from cyber attacks</li> <li>• Non-compliance with customer protection protocols and regulations</li> <li>• Non-compliance with the Service Charters</li> <li>• Disputes with Consumer Associations/Class action suits</li> <li>• Conflicts with Local Authority customers</li> <li>• Loss of ISO 9001 certification and the subsequent inability to participate in tenders</li> <li>• Subsequent negative economic and reputational impact</li> </ul>	<ul style="list-style-type: none"> <li>• Certified Management System: risk assessment and the relative containment measure plan, third-party checks (audits by certification and control bodies)</li> <li>• Structured, multi-channel CRM and caring initiatives</li> <li>• Customer database protection</li> <li>• Specific agreements with consumer organisations and constant monitoring of relations</li> <li>• Implementation of protocols and regulations concerning customer protection via specific processes and procedures</li> <li>• Annual customer satisfaction survey and the identification of improvement actions</li> <li>• Service charters and service specifications</li> <li>• Joint conciliation</li> <li>• Implementation of the Organisational Model of EU Regulation 679/16 (GDPR)</li> <li>• Risk map</li> <li>• MBO including customer satisfaction targets</li> </ul>
<b>Impact on health and safety of consumers</b> <b>Management of emergencies</b> <b>Management of construction sites</b>	<ul style="list-style-type: none"> <li>• Damage to persons or property deriving from: circulation of service vehicles, plant malfunctioning, incorrect supply of services, plants and equipment that interface with or power customer machinery (gas, electricity, water and district heating service)</li> <li>• Subsequent negative operational, economic and reputational impact</li> <li>• Legal proceedings brought by consumers</li> </ul>	<ul style="list-style-type: none"> <li>• Internal control and risk management system (policy and risk map)</li> <li>• Service and plant monitoring tools, remotely controlled systems to promptly identify malfunctions and return plants to safe conditions</li> <li>• Procedures/Instructions: management and control of water withdrawals and discharges; management of atmospheric emissions of the waste-to-energy plants and thermoelectric plants; network and plant management of the gas and integrated water service; special waste management; management of accidental spills of hazardous and/or pollutant substances</li> <li>• Emergency management plans/procedures</li> <li>• Group's Consolidated Text on Procurement</li> <li>• Supplier qualification profiles</li> <li>• Supplier monitoring via questionnaires</li> </ul>
<b>Relations with local communities</b> <b>Development of local communities</b> <b>Dialogue with Public Authorities</b> <b>Internal and external communication</b> <b>Environmental education</b>	<ul style="list-style-type: none"> <li>• Ineffective communication with local communities and institutions</li> <li>• Disruption of relations with local representatives</li> <li>• Subsequent negative reputational impact</li> <li>• Insufficient attention to sustainability on the part of local communities</li> <li>• Incorrect perception of the activities managed</li> </ul>	<ul style="list-style-type: none"> <li>• Organisational and managerial oversight</li> <li>• Establishment of Local Committees</li> <li>• Management procedures for sponsorship and media relations</li> <li>• Media plans for local initiatives</li> <li>• Edu.Iren educational programme</li> <li>• Sustainability awareness programmes</li> <li>• Plants open to visitors</li> </ul>
<b>Personnel management, including actions to ensure gender equality</b> <b>Employment</b> <b>Development of human resources</b> <b>Corporate welfare and diversity</b>	<ul style="list-style-type: none"> <li>• Loss of talent</li> <li>• Loss of key resources</li> <li>• Depletion of human capital</li> <li>• Strikes</li> <li>• Legal proceedings with workers</li> <li>• Non-compliance with labour legislation</li> <li>• Subsequent negative reputational and economic impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Certified Management System: risk assessment and the relative containment measure plan</li> <li>• Model 231</li> <li>• National Collective Labour Agreements</li> <li>• Procedures: personnel recruitment and selection; training and education</li> <li>• Guidelines: definition of key resources; management by objectives; economic and professional development</li> <li>• Internal communication</li> <li>• Career planning and merit enhancement systems</li> <li>• Gender equality promotion</li> <li>• Welfare plan</li> </ul>



Important Topics	Risk factors	Management method
Policies: Iren Group's QSA Policies, Code of Ethics, Mission, vision and values, Business Plan @2023, Local Committees, Job System		
<b>Occupational health and safety</b> <b>Management of emergencies</b>	<ul style="list-style-type: none"> <li>• Internal and external workers' accidents</li> <li>• Company's administrative responsibility</li> <li>• Criminal liability of management</li> <li>• Loss of ISO 18001 certification and the subsequent loss of the INAIL award</li> <li>• Non-compliance with suppliers' health and safety legislation</li> <li>• Subsequent negative reputational impact</li> </ul>	<ul style="list-style-type: none"> <li>• Internal regulations and organisation in application of the Consolidated Law on occupational health and safety</li> <li>• Organisation of the prevention and protection service</li> <li>• Internal control and risk management system (policy and risk map)</li> <li>• Iren Group's Risk Assessment Documents</li> <li>• Certified Management System: risk assessment and the relative containment measure plan, third-party checks (audits by certification and control bodies)</li> <li>• Procedures/Instructions: management of occupational health and safety aspects; PPE management; management of accidents and injuries; protection of the health and safety of pregnant workers, those who have recently given birth and those who are breastfeeding</li> <li>• Emergency management plans/procedures</li> <li>• Health supervision plans</li> <li>• Insurance coverage</li> <li>• Model 231</li> <li>• Information flows of the Supervisory Bodies on health and safety</li> <li>• Suitable audit structure</li> <li>• Personnel training and awareness raising</li> <li>• "Near misses" analysis and subsequent actions</li> <li>• Group's Consolidated Text on procurement</li> <li>• Supplier qualification profiles</li> <li>• Supplier monitoring via questionnaires</li> <li>• Audit system for the most significant and potentially sensitive contracts concerning occupational safety</li> </ul>
<b>Measures aimed at implementing international and supranational personnel conventions</b> <b>Employment</b> <b>Corporate welfare and diversity</b>	<ul style="list-style-type: none"> <li>• Legal actions and/or disputes due to non-compliance with regulations</li> <li>• Sanctions and fines for non-compliance with regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Organisation and activities of the Personnel and Organisation Department, in relation to the Regulatory Affairs Department</li> <li>• Presence of the Group's Industrial Relations Unit responsible for constant regulatory compliance</li> <li>• Verification of the concrete implementation of regulations, supporting any specific corrective actions required</li> <li>• Regulatory training/education procedure</li> <li>• Specific audits on regulatory compliance</li> </ul>
<b>Human rights: measures adopted to prevent violations and actions taken to prevent discriminatory attitudes and actions</b>	<ul style="list-style-type: none"> <li>• Incorrect conduct by employees</li> <li>• Incorrect conduct by suppliers</li> <li>• Violation of the rights of people with disabilities</li> <li>• Violation of workers' rights</li> <li>• Violation of workers' rights by suppliers</li> <li>• Discriminatory actions against customers and employees</li> <li>• Subsequent negative operational, economic and reputational impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Dissemination of the Code of Ethics and monitoring of breach reports with the application of the relative sanctions</li> <li>• System for reporting to the Supervisory Bodies</li> <li>• Application of National Collective Labour Agreements</li> <li>• Service charters</li> <li>• Hiring of disadvantaged personnel</li> <li>• Contracts that enhance the work of disadvantaged personnel</li> <li>• Supply chain monitoring on workers' rights</li> <li>• Removal of architectural barriers in Group buildings</li> <li>• Accessibility of services to disabled residents with the monitoring of any inaccessibility reports</li> <li>• Supplier qualification profiles</li> <li>• Contractual clauses with suppliers</li> <li>• Supplier monitoring via questionnaires</li> <li>• Audit system for the most significant and potentially sensitive contracts concerning human rights</li> </ul>
<b>Fight against corruption</b>	<ul style="list-style-type: none"> <li>• Company's administrative responsibility</li> <li>• Criminal liability of management</li> <li>• Subsequent negative operational, economic and reputational impact</li> </ul>	<ul style="list-style-type: none"> <li>• Model 231</li> <li>• Sponsorship management procedure</li> <li>• Internal Audit</li> <li>• Supervisory Bodies</li> <li>• Whistleblowing procedures</li> </ul>

The Enterprise Risk Management (ERM) model also considers climate change and the risks and opportunities that these entail strategically speaking. Among the effects of climate change there have been extreme critical atmospheric phenomena such as droughts and floods; these events determine the impacts on the systems and services, together with the associated economic implications, and require organisational attention in relation to the consequences for Group assets, service management and production and maintenance scheduling.

The Group's Risk Management Department, which reports to the Deputy Chairman, is responsible, *inter alia*, for coordinating the integrated management process of the Group's risks, including those related to mergers and acquisitions, and assessing insurance requirements, planning the programmes and stipulating and managing policies.

A periodic assessment process is also in place with regard to adverse events in the various sectors and across all operational areas in order to describe in detail their causes and implement the most suitable methods for preventing and/or limiting the impacts of the events.

## ORGANISATIONAL MODEL PURSUANT TO ITALIAN LEGISLATIVE DECREE 231/2001

Iren and the main companies of the Group have adopted organisational, management and control models pursuant to Italian Legislative Decree 231/2001 (Model 231). The model aim to configure a structured and organic system of control activities and procedures to prevent conduct that could constitute the commission of the crimes covered under Italian Legislative Decree 231/2001, which also include crimes related to corruption.

In 2018, the project to review and update of the Model 231 of the parent Group and the main Group companies continued. This project began following significant organisational changes and the extension of administrative liability pursuant to Italian Legislative Decree 231/2001 to new crimes by the legislator, so that the Model 231 maintain their effective capacity to prevent the commission of 231-related crimes over time. The 231 Models were also updated with reference to Italian Law 179/2017 "Provisions for the protection of whistleblowers of crimes or irregularities of which they have become aware in the context of a public or private employment relationship". The revision of the Models was implemented in accordance with a risk self-assessment methodology consisting of the identification and self-assessment being conducted by management ("risk owners") in processes, sub-processes or activities at risk of 231-related crimes, also assessing potential risk, the control level and the remaining risk of each sensitive activity.

The review and update project requires that the updated Model be presented to the Supervisory Bodies of each individual Company and then submitted to the Board of Directors for approval. Thereafter, all employees are informed of the approval of the new Model 231 via a service order, which reminds them that they must consult it and adopt conduct that complies with the provisions

contained therein. The updated Model 231 is published, in its entirety, on the company Intranet for online consultation.

Each Recipient of the Model 231 is required to report any breaches or suspicions of breaches of the Code of Ethics or the principles of control pursuant to the so-called "whistleblowing" Model. In order to ensure the effectiveness of the whistleblowing system, the Group has adopted a specific procedure for the management of reports to the Supervisory Body, which regulates the methods of communication of the reports and governs the responsibilities and verification activities carried out by the person who receives the report, in order to ensure that the validity of the report is verified, that all suitable actions are taken, including sanctions, and all measures aimed at preventing its repetition are put into effect. Reports are managed in compliance with the principle of confidentiality and the principles and provisions contained in the 231 Organisational Model, in the procedure. The Company and the SB act to guarantee that the whistleblowers are protected from any form of retaliation or discriminatory behaviour, both direct and indirect, in regards their reporting.

Through training the Group promotes the whistleblowing discipline, also in order to develop a correct corporate culture.

Any reports received from internal and external parties during the period about alleged breaches of the Model or Code of Ethics will be handled within the Supervisory Body's half-yearly report to the BoD.

In 2018, one report was sent to the Supervisory Bodies of the Group's Companies.

## SUPERVISORY BODIES

Iren and the main Group companies, with a resolution of the BoD, established a Supervisory Body (SB) pursuant to Italian Legislative Decree 231/2001, tasked with monitoring the functioning and compliance of the Model and updating it. In order to meet the requirements of autonomy, independence, professionalism and continuity of action, the choice was made to form the SB with a collegiate structure. The necessary initiative and controls are conferred to the Supervisory Body in order to ensure effective and efficient monitoring of the functioning and compliance of the Model, in accordance with the provisions of Article 6 of Italian Legislative Decree 231/01. With the assistance of the competent company departments, the Supervisory Body monitors the areas of activities found to be at risk pursuant to Italian Legislative Decree 231/2001 and reports to the Board of Directors twice a year on the activities carried out and the results obtained. If believed to be necessary, the Supervisory Body gives suggestions aimed at improving the control system for activities and oversees their implementation. The Supervisory Body is also assigned the task of notifying the Chairman of the Board of Directors regarding any breaches in protocols and/or procedures or any failures found during the conducted inspections, so that they may adopt the necessary adjustment measures, involving the Board of Directors where required. The assignment of these responsibilities to a body equipped with autonomous powers of initiative and control, together with the correct and effective performance of the same, are



fundamental prerequisites for the exemption from liability provided for by Italian Legislative Decree 231/01.

## CODE OF ETHICS

Iren Group strives to spread and promote awareness of the Code of Ethics to its employees and everyone who works for the Group, monitoring compliance and providing adequate information and control tools to guarantee the work of individuals and the company's operations.

The Code of Ethics, which transposes the mission, vision and values of Iren Group into conduct standards for all employees in internal and external relationships, is also the cornerstone of the organisational model that aims to prevent the crimes laid down by Italian Legislative Decree 231/2001, including the crime of corruption. Observation of the content of the Code of Ethics by all who operate on behalf of Iren is of fundamental importance for the smooth operation, reliability and reputation of the Group. With regard to the external parties to whom the Code is addressed, the Group undertakes to introduce contractual clauses and/or to obtain signed declarations that formalise the acknowledgement, acceptance and compliance with the principles set out in the Code.

Mandatory acceptance of the Code of Ethics is required by all suppliers from the offer stage, without the possibility of exceptions or amendments. Companies are required to report any attempt to disturb, any irregularities or misrepresentation by any competitor or party involved, during the tender and/or when performing the contract, to the Iren Group company that calls the tender, as well as any anomalous request or demand from Group employees or anyone who can influence the decisions of the tender or the contract and its execution. Therefore, all employees must notify their superior and the Personnel Department in writing of any interest, direct or indirect, in the business of the supplier and make known any past or present relationship of a financial, business, professional, family or social nature such as to influence the impartiality of their conduct in regard to the supplier.

Employees who become aware of omissions, falsifications or negligence in accounting records or supporting documents must immediately inform their superior who will report to the Financial Reporting Manager.

Every director, auditor, employee or collaborator of Iren Group must actively contribute to the implementation of the Code of Ethics and to reporting any breaches and non-compliance, as far as they are competent.

Breaches of the Code of Ethics must be reported, even anonymously, to direct superiors, the Internal Audit and Compliance Department and the Supervisory Body pursuant to Italian Legislative Decree 231/01 that, in collaboration with the Corporate Social Responsibility and Local Committees Department, will assess the validity of the report.

Senior Managers and Managers of company bodies and departments are committed to encouraging and protecting the reports of possible breaches of the Code of Ethics from employees, to prevent any kind of reprisal and to promptly refer any reports

received, adopting the immediate and crucial corrective measures required by the situation, as well as to ensure that employees comply with the provisions of the Code of Ethics.

Iren ensures the verification of each notice of breach of the Code of Ethics, received pursuant to the methods and through the channels specified by the Code, the assessment of the facts and the application of appropriate sanctions in case of breaches. Specifically, it is the responsibility of the Supervisory Body to formulate their own observations concerning the alleged breaches of the Code of Ethics of which they are made aware, reporting any violations found to the competent company bodies.

Iren's Corporate Social Responsibility and Local Committees Department have the task of promoting the understanding, dissemination and update of the provisions of the Code of Ethics, and ensure their interpretation. Personnel training involving 1,278 employees began during 2018 following the update of the Code which took place in December 2017.

The Code of Ethics is also available on the Group's website in order to achieve maximum dissemination and understanding. Furthermore, to support ethical conduct and compliance with the law and Code of Ethics, the Iren Group makes available information concerning laws, regulations and insights regarding quality, environment and safety to all stakeholders, both internal and external. This can be found on the company website and Intranet.

In 2018, the Group did not receive any notifications of breaches to the Code of Ethics.

## INTEGRATED SYSTEM AND CERTIFICATION

Iren Group strives to offer its customers and residents service efficiency, effectiveness, economic convenience and high quality, operating with expertise and professionalism in full respect of the environment and safety, contributing to the well-being of its personnel and the community, guaranteeing its shareholders adequate profitability.

That is why the Group has developed an Integrated System (Quality, Environment and Safety - QES), which is structured so as to adequately monitor all operating processes that influence the service levels. Attention is increasingly focused on the customer and on the basis of risk identification and governance as part of the ongoing analysis of the organisational context and the needs and expectations of the parties involved. The Certified System is actually a streamlined and flexible organisational model that can quickly adapt to changes in customer expectations and needs, as well as internal organisational changes, thereby ensuring continuous monitoring of the effectiveness and efficiency of the processes at the same time.

The values pursued by Iren Group form the basis of the Integrated System Policy, which is distributed and shared with all personnel.

Monitoring of the Quality, Safety and Environment systems are guaranteed for each first-level Company by the Personnel, Organisation and IT Systems Department of Iren.

## MAIN CERTIFICATIONS

	ISO 9001 (Quality)	BS OHSAS 18001 (Safety)	ISO 14001 (Environment)	EMAS	UNI 11352 (ESCO)	ISO 17025 (Laboratories)
Iren	•	•	•			
Iren Ambiente	•	•	•	• (3 sites)		
Iren Energia	•	•	•	• (4 sites)	•	
IRETI	•	•	•			
Iren Mercato	•	•				
Acam Acque	•	•	•			
AMIAT	•	•	•			•
ASM Vercelli	•	•	•			
Atena Trading	•	•			•	
Bonifica Autocisterne	•					
Iren Acqua	•	•	•			
Iren Acqua Tigullio	•	•	•			
Iren Laboratori	•	•	•			•
Iren Rinnovabili	•	•	•		•	
REI			•			
Salerno Energia Vendite	•					
Studio Alfa	•					•
TRM			•			

In 2018, the redesign of the Certified Systems was completed, on the basis of the 2015 revision of the reference standards for Quality and Environment Certification. This led to the redefinition of the Management Systems on the basis of the single structure (High Level Structure) that ISO defined for all reference standards for certification (Quality, Environment, Safety, Energy Efficiency, Business Continuity, Information Security, etc.). This structure provides for Analysis of the Risks associated with operations and with the products/services offered on the basis of an analysis of the company's internal and external context. Therefore, a methodology to identify and evaluate these risks was developed and applied to each Iren process and those of Group Companies. Starting from the risks identified, the documentation was re-examined and the applicability and adequacy of the same was assessed in relation to various factors such as the complexity of the processes and the skills of the personnel. The process ended with the recognition by the Certification Bodies of the validation of the approach and the results obtained by renewing the Certifications of the Companies of the Group, with the passage to the new standards.

In 2018, all the audits conducted by the Certifying Bodies at Group companies passed, confirming the maintenance of the Certifications already possessed, and the actions planned to achieve the defined objectives were carried out:

- renewal of the Quality (ISO 9001), Environment (ISO 14001) and Safety (BS OHSAS 18001) Certifications, with the transition to the new standards for Iren Ambiente and Iren Energia;
- maintenance of the Certifications held by the other Group Companies;

- maintenance of the Multi-site Accreditation for Iren Laboratori and the Accreditation of AMIAT and Studio Alfa Laboratories;
- maintenance of EMAS registrations for Iren Ambiente;
- maintenance of certification for the sale of electricity produced solely from renewable sources (Certquality Technical Document no. 66), by Iren Mercato;
- achievement of Quality (ISO 9001), Environment (ISO 14001), Safety (BS OHSAS 18001), Energy Efficiency (ISO 50001), ESCO (UNI 11352) and F-Gas certifications for Iren Rinnovabili.

The achievement and maintenance of voluntary certificates demonstrate the commitment of the Iren Group to protecting the environment, the rational use of natural resources, full compliance with legislation, raising awareness among its customers and suppliers and service levels.

In order to ensure sustainable company growth based on the principle of continuous improvement, resources were employed for the:

- development of the production of energy from renewable sources or similar and district heating, together with the adoption of the best technologies to guarantee a reduced environmental impact;
- improvement of the use of water resources, in terms of both its withdrawal and its discharge;
- renovation of the urban waste water treatment systems and search for the best technologies in order to improve the quality of effluents and minimising odorous emissions;



- correct management of obligations concerning special waste in the production, storage, transport and disposal and/or final recovery stages;
- spread of information on the impact that company activities have on the external environment through specific publications, such as the Sustainability Report and Environmental Declarations.

From a management point of view, to reduce the environmental impact of the Group's activities, particular importance was given to:

- redesigning the environmental Management Systems certified in accordance with UNI EN ISO 14001 and EMAS standards;
- Defining and assessing the new development method for the Environmental Analysis for sites, plants and processes;
- monitoring environmental performance through the use of indicators for significant environmental aspects;
- analytically testing the impact on the environment, with particular reference to atmospheric emissions, air quality, water discharges, special waste, acoustic emissions and electromagnetic fields;
- conducting specific internal audits aimed at verifying the correct management of the environmental problems connected with company plants;
- fulfilling administrative obligations, with particular regard to the monitoring and control activities associated with the Integrated Environmental Authorisations (I.P.P.C. Directive) and the emission of greenhouse gases (Emission Trading System), for the plants concerned;
- involving company personnel through participation in specific training courses on environmental issues and best plant management practices.

## HUMAN RIGHTS

Attention to and respect of individuals are issues that Iren Group places at the heart of its growth and the sustainable development of the community and local area. The Group mainly works in Italy, where a complex system of laws contributes to preventing the risk of violating human rights. Nevertheless, the Group considers the UN's Universal Declaration of Human Rights, the International Labour Conventions and Recommendations issued by the ILO (International Labour Organization) and the Earth Charter drafted by the Earth Council to be fundamental in defining of its values.

Recognising the absolute value of the fundamental principles of the Constitution of the Italian Republic, respect for people's dignity and the condemnation of all forms of discrimination are fundamental for Iren Group. These principles translate into a refusal to enter into negotiations or assign tasks that might violate or contradict the fundamental principles, forming the basis of our respect for human dignity, and our commitment not collaborate with partners that violate the primary rights of all workers or use child labour.

At Iren Group, respect for human rights is always a fundamental prerequisite for correct business activity. It is reflected in our scrupulous compliance with the law and contract regulations, with

the provisions of the 231 organisational and management model and the Code of Ethics, as well as in our constant discussion with Trade Unions and stakeholders (via Local Committees) and in the suppliers' management system. This issue is so integral to the company culture that all action areas and tools mentioned above are subject to constant update and improvement.

The Group constantly works to ensure fair and impartial treatment for all citizens, in accordance with the principles established in the service charters and condemns any type of discrimination on the grounds of age, gender, sexuality, race, health status, nationality, political opinions or religious beliefs and has adopted tools to promote accessibility and use of services, with particular regard to the disabled, the most vulnerable and foreign-speaking citizens.

In the non-recurring operations carried out in 2018, in order to acquire companies/shares, the Group carried out the appropriate due diligence to verify the application of the labour and occupational safety laws provided by Italian law.

In 2018, supplier analysis was conducted via a questionnaire for the second time, which aimed to ascertain the human rights policies adopted by the companies that hold active contracts with the Group. Of the 779 supplier companies that responded (26.2% of qualified suppliers), 55% (51% in the previous analysis) have adopted human rights policies that fall into the following areas:

- equal opportunities and equal treatment irrespective of race, gender, language, religion, nationality, political opinion, sexual orientation, social status, disability, age or other condition of the individual that is not connected to the requirements for carrying out their job;
- training to raise awareness and prevent discrimination;
- formal reporting systems that allow workers to report human rights breaches, ensuring the protection of the reporter's identity;
- checking of the age of employees during the hiring process, even if done by recruitment companies;
- measures to integrate employees;
- formal control systems to ensure that the company does not request that its employees deposit money, identity documents or credit cards during the hiring process.

Furthermore, 19% of those who responded to the questionnaire stated that there is an employee within their organisation who is officially responsible for human rights issues. Finally, no cases of complaints for human rights violations or complaints or legal actions for discriminatory practices were found among the suppliers who responded.

This survey will be repeated regularly to maintain constant monitoring of the supply chain.

## CODE OF CONDUCT AND SERVICE CHARTERS

Iren adheres to the recommendations of the Code of Conduct of Listed Companies, which was drafted by the Committee for Corporate Governance of the Italian Stock Exchange, and in order to meet the 'comply or explain' principle that distinguishes the Code, the Board of Directors has approved a document which highlights the specific governance solutions adopted.

Iren Group operates in full compliance with the Code of Business Conduct for the sale of electricity and natural gas and, in general, with the standards issued by ARERA (The Italian Regulatory Authority for Energy, Networks and Environment).

The management of the Integrated Water Service is regulated by strict ARERA regulations, to which the Service Charters have conformed.

In the management of Environmental Services, the Service Charters regulate the action to achieve high quality standards in terms of continuity and customer relations. A reimbursement system in the event of disruption guarantees the commitment to comply with the standards agreed upon.

The District Heating Service Charter is the fundamental tool for protecting the customer's right to receive services according to quality and efficiency standards. The parameters contained in it allow objective assessments to be made of compliance with the guaranteed standards.

### IREN GROUP SERVICE CHARTERS

Waste Management service

Integrated Water service

District heating

Municipal electrical and thermal plant

Traffic light service

Public street lighting service

In May 2017, Iren signed an Alternative Dispute Resolution (ADR) protocol for joint conciliation with 19 Consumer Associations of the National Consumer Council, which applies to customers who are "consumers" of Group companies (in particular, Iren Mercato, Ireti, Iren Acqua, Iren Acqua Tigullio) for the sale and distribution of gas and electricity, the integrated water service and district heating.

Following the signing of the protocol, a Joint Conciliation Body was established, which was recognised by the Italian Regulatory Authority for Energy, Networks and Environment (Resolution 92/2018/E/COM) and included on the Authority's list of ADR entities. As a result of this, the sections of the sites dedicated to conciliation were made available to customers and work began on managing requests for conciliation.

In the second half of 2018, the Group's joint conciliation protocol was extended to customers of Atena Trading and Acam Acque and the definition of the extension for Salerno Energia Vendite began.

In regard to the conciliation with the Single Buyer, from July 2018 ARERA has provided for voluntary adherence to this instrument also for water service operators, which is currently in its trial phase. Ireti, Iren Acqua, Iren Acqua Tigullio, Acam Acque and AMTER have joined and have been active since the second half of 2018.

At the end of 2018, an information campaign was launched on joint conciliation, using materials made available at Iren Group branches and at the local branches of the Consumer Associations that requested them.

## RELATIONS WITH STAKEHOLDERS

Iren Group is constantly committed to creating, strengthening and expanding its relationships with its stakeholders to guarantee them ample space to air their views and to enter into dialogue. The criteria to involve stakeholders are defined so as to be as inclusive as possible and address transparency, fairness, sensitivity to ethical, environmental and social issues and consistency with respect to the activities of the Group. The dialogue with its stakeholders is based upon the principles of inclusiveness, materiality and compliance laid down in the AccountAbility 1000 standard. Considering the importance of the Group's activities for the quality of life of residents and for the local area, the main stakeholder categories are represented by: personnel, customers, suppliers, shareholders and financial backers, communities and local areas, institutions, environment and future generations. These categories are represented by the Local Committees, an innovative channel for dialogue, debate and participatory planning between the Iren Group and its stakeholders concerning the company's services and the social and environmental sustainability topics.



*Iren Local Committees guarantee listening, discussion and participatory planning with stakeholders*



## MAIN STAKEHOLDER CATEGORIES OF THE IREN GROUP



The Corporate Social Responsibility and Local Committees Department, which report to the Deputy Chairman of Iren Group, are assigned activities related to the Local Committees, amongst others, and those, more generally, concerned with *stakeholder engagement*.

Iren has consolidated an engagement for the stakeholder present in the Local Committees within the materiality analysis (see page 7) to share and assess important topics for drafting the Sustainability Report. The materiality analysis made it possible to compare the vision of Iren Group with that of the different categories of stakeholders, in order to receive their input and develop a sustainability report that was increasingly relevant and focused on their real interests, thus providing a clear framework of strategies, policies and results across the various activity areas.

To deepen the discussion concerning sustainability issues, in 2018 Iren held in-depth meetings with the Local Committees, participated in seminars and conferences, produced specific publications and organised the forum "Looking to the future. Strategies for developing and enhancing the local area". The forum was also an opportunity to present the study entrusted to The European House Ambrosetti on the contribution to the development of the territorial capital of Iren Group and to discuss environmental and social performance with institutions and stakeholders.

Every year, the Sustainability Report is published on the Group's website and specific information brochures are produced and the irensostenibilita.it site is updated. In 2018, short videos were also published on the company intranet and a local media campaign was run to increase the Group's commitment to guaranteeing environmental, social and financial sustainability for its stakeholders.

## IREN LOCAL COMMITTEES

To strengthen and expand dialogue with stakeholders, Iren has created Local Committees which are designed to ensure a deeper-rooted presence in the local community, thanks to the participatory planning and times of consultation on issues such as environmental and social sustainability, innovation and the quality of services provided. In order to guarantee and broaden the widespread involvement, the Committees use the [www.irencollabora.it](http://www.irencollabora.it) on-line platform, the first of its kind on a national level, where citizens can make proposals and suggestions directly on the issues dealt with by the Committees, with the aim of generating concrete and tangible projects. The information flow produced by the platform is also a valuable source that inspires Iren to adopt innovative service strategies and anticipate the needs of the local areas. Specific working groups are established within the individual Committees aimed at the development of the projects presented within the Committee or on the [irencollabora.it](http://irencollabora.it) platform. In 2018, 81 Committee and working group meetings were held and, in December 2018, there were 1,208 profiles registered on the platform, 53 projects and 44 proposals.

Through Local Committees, stakeholders can also draw the Group's attention to issues concerning the company's services, as well as environmental and social sustainability topics. The Chairman and Deputy Chairman of Iren, who are members of the Local Committees, report regularly to the Control, Risk and Sustainability Committee and the Board of Directors, on the trend of the activities and the discussion and planning activities carried out within the Committees.

The table on the next page identifies the stakeholders, key topics and critical situations for each category of stakeholders and the projects and initiatives for the involvement of the same.





## ACTIVITIES AND TOPICS FOR ENGAGEMENT OF STAKEHOLDERS

Stakeholders	Main categories	Key topics	Projects, initiatives aimed at the stakeholders
<b>Personnel</b>	<ul style="list-style-type: none"> <li>• Employees</li> <li>• External staff (other than employees)</li> <li>• Trade Unions</li> </ul>	<ul style="list-style-type: none"> <li>• Health and Safety</li> <li>• Enhancement of skills</li> <li>• Remuneration</li> <li>• Training</li> <li>• Internal communication</li> <li>• Welfare</li> <li>• Equal opportunities</li> <li>• Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Training initiatives</li> <li>• Work Life Balance</li> <li>• Internal mobility</li> <li>• Code of Ethics</li> <li>• Industrial Relations and trade union agreements</li> <li>• "Irenfutura" Portal</li> <li>• "Iren Welfare" Portal</li> <li>• Incentivised termination of the employment relationship</li> <li>• Reward Performance management</li> <li>• "New-graduate hires" Project</li> <li>• "Welfare" Project</li> <li>• Materiality analysis</li> <li>• Local Committees</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>• Users of retail and business services</li> <li>• Local Authorities</li> <li>• Consumer associations</li> </ul>	<ul style="list-style-type: none"> <li>• Service Levels</li> <li>• On-line and mobile services</li> <li>• Transparent Communications</li> <li>• Tariffs</li> <li>• Credit management</li> <li>• Service reliability and safety</li> <li>• Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Front offices and call centres</li> <li>• Transparent information on bills</li> <li>• Website</li> <li>• App for smartphones and tablets</li> <li>• Social channels</li> <li>• Customer Satisfaction surveys</li> <li>• Initiatives for the safety of customers</li> <li>• Initiatives to improve the quality of services</li> <li>• Code of Ethics</li> <li>• Meetings and framework agreements with Associations</li> <li>• Credit management protocols</li> <li>• Social tariffs</li> <li>• Joint conciliation protocols</li> <li>• Training meetings on social bonuses</li> <li>• Guides for reading bills</li> <li>• Materiality analysis</li> <li>• Local Committees</li> </ul>
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>• Suppliers of goods, services and works</li> <li>• Qualified suppliers</li> <li>• Local suppliers</li> <li>• Trade associations</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain management</li> <li>• Transparent Communications</li> <li>• Contractual conditions</li> <li>• Payments</li> <li>• Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Procurement portal</li> <li>• Suppliers' Register</li> <li>• Code of Ethics</li> <li>• Training/information for third party companies</li> <li>• Materiality analysis</li> <li>• Local Committees</li> </ul>
<b>Shareholders and Financial Backers</b>	<ul style="list-style-type: none"> <li>• Retail investors</li> <li>• Public Shareholders</li> <li>• Institutional Investors</li> <li>• Financial community</li> <li>• Ethical Funds</li> <li>• Banking institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate Governance</li> <li>• Transparent Communications</li> <li>• Trend of the share</li> <li>• Green Bond Issue</li> <li>• Economic financial results</li> <li>• Rating</li> <li>• Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Roadshows</li> <li>• Webcasting service</li> <li>• Communication of results and possible future risks</li> <li>• Adoption of disclosure policies</li> <li>• Inclusion in ethical indexes</li> <li>• Participation in Carbon Disclosure Project</li> <li>• Sustainable Financing Committee</li> <li>• Business Plan to 2023</li> <li>• Shareholders' Meeting</li> <li>• Calendar of corporate events</li> <li>• Materiality analysis</li> <li>• Local Committees</li> </ul>
<b>Institutions, local areas and the Community</b>	<ul style="list-style-type: none"> <li>• Local Authorities</li> <li>• Regulatory Authorities</li> <li>• State</li> <li>• Non-Governmental Organisations (NGOs)</li> <li>• Associations</li> <li>• Media</li> <li>• Local citizens</li> </ul>	<ul style="list-style-type: none"> <li>• Attention to the local area</li> <li>• Dialogue and involvement</li> <li>• Creation of opportunities for local area growth</li> <li>• Transparent Communications</li> <li>• Investments and support for initiatives in local areas</li> <li>• Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Notification of opinions and documents</li> <li>• Participation in meetings with Institutions</li> <li>• Surveys and questionnaires</li> <li>• Conferences, seminars and workshops</li> <li>• Participation in projects in cooperation with Institutions</li> <li>• Plant visits</li> <li>• Local Committees and "Irencollabora.it" platform</li> <li>• Materiality analysis</li> <li>• Facilitation plans for Communities affected by environmental emergencies</li> </ul>



Stakeholders	Main categories	Key topics	Projects, initiatives aimed at the stakeholders
Environment	<ul style="list-style-type: none"> <li>Trade associations</li> <li>Technicians and sector experts</li> <li>Representatives of authorities and institutions</li> </ul>	<ul style="list-style-type: none"> <li>Water network leaks</li> <li>Management of water treatment plants</li> <li>Efficiency of the gas distribution network</li> <li>Production of energy and atmospheric emissions</li> <li>Energy saving</li> <li>Sustainable mobility</li> <li>Waste management</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Development of renewables</li> <li>Energy savings and efficiency projects</li> <li>District heating development</li> <li>Increase in the capacity to dispose of special waste</li> <li>Systems to increase separated waste collection</li> <li>Reduction of water network leaks</li> <li>Containment of atmospheric emissions</li> <li>IrenGo</li> <li>Awareness raising on environmental issues</li> <li>Materiality analysis</li> <li>Local Committees</li> </ul>
Future Generations	<ul style="list-style-type: none"> <li>Schools</li> <li>Universities</li> <li>Research centres</li> <li>Trade associations</li> <li>Incubators</li> </ul>	<ul style="list-style-type: none"> <li>Environmental protection</li> <li>Smart City</li> <li>Demand Side Management Programmes</li> <li>Innovative services</li> <li>Reduction of environmental impacts</li> <li>Climate change</li> <li>Sustainable behaviours</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Educational programmes in schools (Edu.Iren) and universities</li> <li>Guided tours</li> <li>Projects and investments in research and innovation</li> <li>Partnerships for research and innovation</li> <li>Framework agreements with Universities and research centres</li> <li>Materiality analysis</li> <li>Local Committees</li> </ul>

## ETHICAL INDEXES

The Group's decision to always place environmental sustainability at the centre of its business was confirmed in the latest Business Plan: water resources, circular economy, decarbonisation and resilient cities will be at the heart of the Group's agenda, which will invest over 50% of its planned cumulative investments in sustainability, amounting to 3 billion Euro, in order to achieve the commitments to the SDGs of the United Nations. This tangible commitment confirms the desire to merge the Group's development with that of the communities, local areas and the environment.



The Group is part of the FTSE Environmental Opportunities index series, which compares the performance of companies with environmental opportunities, namely those whose activities may represent added value solutions to environmental problems. In

particular, these indexes are the "FTSE EO All-Share Index" and the "FTSE EO Water Technology Index".



The presence in a top position at a national level in the "CDP Climate Change 2018" survey of the Carbon Disclosure Project (independent non-profit organisation, which collects, analyses and disseminates data on the environmental performance of companies, cities, states and regions at a global level) in which Iren obtained an A- score and ranked amongst the 7 Italian companies with the best performance in reducing emissions, mitigating climate change and developing solutions to promote decarbonisation.



In Oekom's Corporate Responsibility Rating, conducted in April 2018, Iren Group obtained the Prime status (see page 56).

# COMMITMENT TO IMPROVEMENT

## ENVIRONMENT

Topic area	Actions carried out in 2018	Future Objectives
<b>Emissions</b>  <b>Energy efficiency, renewable sources and district heating</b>	<p>Development of the works for the connection of the waste-to-energy plants in Turin and Piacenza to the respective district heating networks</p> <p>Increase in district heating volume</p> <ul style="list-style-type: none"> <li>• 1.5% increase in volumes connected to the district heating network</li> <li>• + 5.3 million m<sup>3</sup> served during the 2018-2019 heating season (lease of the Sei Energia business unit)</li> <li>• development of works to connect the Piacenza waste-to-energy plant to the district heating network and the start of construction of the storage system</li> <li>• interventions on the district heating network and on the Turin waste-to-energy plant to connect it to the Grugliasco network</li> <li>• the start of the authorisation procedures for building the new heat storage systems in the Turin area</li> </ul> <p>Consolidation of the leadership position of environmentally friendly sources:</p> <ul style="list-style-type: none"> <li>• start of redevelopment works on the hydroelectric plants of Chiomonte and Susa</li> <li>• acquisition of control of the company Maira, owner of 3 mini-hydro plants with a total output of 5 MW</li> </ul> <p>Energy efficiency:</p> <ul style="list-style-type: none"> <li>• the replacement of around 110 boilers in municipal buildings in Turin</li> <li>• efficiency interventions on public street lighting systems, replacing them with LED lamps in the Municipality of Biella and in other municipalities nearby</li> <li>• the energy requalification of buildings, consultancy and monitoring of energy consumption and the construction of micro co-generation and photovoltaic plants for customers</li> <li>• the installation of highly energy efficient pumps in the main sewage pumping stations with energy-saving monitoring</li> </ul> <p>The replacement of lighting fixtures around the perimeter of the Piacenza waste-to-energy plant with new LED projectors (expected savings of 25,120 KWh/year)</p>	<p>5% reduction in CO<sub>2</sub> emissions by 2023 compared to 2017</p> <p>11% increase in district heating volumes by 2023 compared to 2017:</p> <ul style="list-style-type: none"> <li>• investments in new connections to the district heating network in all areas</li> <li>• the creation of 10,000 m<sup>3</sup> of new heat storage in the cities of Reggio Emilia, Genoa, Parma, Piacenza and Turin</li> <li>• additional investments for the flexibility of heating systems to guarantee the best efficiency standards and to respond to the future challenges of the electricity market</li> </ul> <p>Consolidation of the leadership position of environmentally friendly sources through investments in the mini-hydro and photovoltaic sector</p> <p>Energy efficiency:</p> <ul style="list-style-type: none"> <li>• save 10% of tonnes of oil equivalent (TOE) by 2023 compared to 2017</li> <li>• energy requalification of both public and private buildings by working on the exteriors</li> <li>• monitoring and consultancy interventions to reduce customers energy consumption</li> <li>• revamping of heating systems</li> <li>• relamping and efficiency-raising interventions for the public street lighting systems in the municipalities of Fidenza, Fiorenzuola and Turin</li> <li>• the development of highly energy efficient pumps in the main sewage pumping stations and energy-saving monitoring</li> </ul> <p>The installation of more energy efficient lighting in most waste treatment and disposal plants</p>
	<b>Circular economy: waste management, collection and reuse</b>	<p>45.7% increase in separated waste collection in Turin and 72.8% on average in the provinces of Piacenza, Parma and Reggio Emilia, thanks to the extension of home waste collection services</p> <p>Extension of the exact waste pricing tariff to an additional 5 municipalities (11,665 residents) and an increase of 1,316 residents in the municipalities that are already served</p> <p>Increase in the quantity of recoverable waste treated in the Group's plants: requests for the construction of</p> <ul style="list-style-type: none"> <li>• recovery plant for organic waste with biomethane production in Reggio Emilia</li> <li>• plastic and paper selection plant in Turin</li> <li>• plastic and paper selection plant at the Parma IEC</li> </ul>



Topic area	Actions carried out in 2018	Future Objectives
<b>Sustainable use of water resources</b>	<p>Reduction in water withdrawals from the environment for drinking water distribution:</p> <ul style="list-style-type: none"> <li>• 46% of water network divided into districts</li> <li>• reduction of 6 million cubic metres in water fed to the network in traditional areas compared to 2017</li> </ul> <p>Reduction of water consumption in production processes: creation of a system for the reuse of part of the waste water for cooling the bottom ashes of waste-to-energy plants</p> <p>Qualitative and quantitative improvement of the purification capacity:</p> <ul style="list-style-type: none"> <li>• increase in the purification capacity of the plants of more than 16,000 equivalent residents compared to 2017</li> <li>• pollutant reduction in purified water: 93% BOD, 89% COD and 92% SST</li> </ul> <p>Construction of the second biological purification line at the waste treatment and recovery plant in Piacenza, dedicated solely to landfill leachate</p>	<p>Reduction in water withdrawals from the environment for drinking water distribution:</p> <ul style="list-style-type: none"> <li>• a 5 percentage point reduction in network leaks by 2023 compared to 2017, thanks to division into districts of 84% of the water networks and to sustainability education initiatives</li> </ul> <p>Reduction of water consumption in production processes: optimisation of waste water recycling system in the cooling of the bottom ashes of waste-to-energy plants</p> <p>Qualitative and quantitative improvement of the purification capacity:</p> <ul style="list-style-type: none"> <li>• 14% increase in the purification capacity of the plants, in terms of equivalent residents, by 2023 compared to 2017</li> <li>• pollutant reduction in purified water: 94% BOD, 90% COD and 93% SST by 2023</li> </ul>
<b>Innovation and smart cities</b>	<p>Resilient cities: the start of the Just Iren project (industry 4.0) with the definition of the intervention areas (collection, disposal, waste movement data management, logistics, planning, billing, etc.), determining the sensors for the waste collection service (containers and vehicles) and the assessment of sensor integration for plants</p> <p>Over 55% of intelligent gas meters installed, to improve the billing systems of the sales companies and monitoring by the customer</p>	<p>Resilient cities: the extension of the Just Iren project to all intervention areas to reduce the impacts of the collection service, logistics, connected administrative processes, control of services in the local area and the extension of the exact waste pricing method</p> <p>94% of intelligent gas meters installed by 2023, to improve the billing systems of the sales companies and monitoring by the customer</p>
<b>Efficient and reliable services</b>	<p>Efficiency raising of the waste treatment and recovery plants:</p> <ul style="list-style-type: none"> <li>• reduction in leachate production at the Poiatica (Reggio Emilia) landfill with the maintenance and consolidation of temporary coverings</li> <li>• minimisation of waste quantities in storage at the storage plant on via Dei Gonzaga, Reggio Emilia</li> <li>• new fire detection system at the Cornocchio (Parma) site to contain environmental/safety risks</li> </ul> <p>Improvement of the security level of the gas network:</p> <ul style="list-style-type: none"> <li>• gas network inspected: 84.5% of the high and medium pressure network, 79.8% of the low pressure network</li> <li>• upgrading of the gas network: 26 km of network laid, of which 19.5 km operational</li> <li>• replacement of 49 earth electrodes for cathodic protection of the steel network</li> <li>• upgrading of 28 rising mains</li> <li>• leak searching linked to the replacement of electronic meters</li> <li>• 96% of emergency calls with on-site arrival times within 60 minutes</li> </ul>	<p>Efficiency raising of the waste treatment and recovery plants: installation of adequate sensors on measuring systems present on the sites to enable constant monitoring thanks to the interconnection with the Just Iren system, which is currently being developed</p> <p>Improvement of the security level of the gas network:</p> <ul style="list-style-type: none"> <li>• gas network inspected: 85.5% of the high and medium pressure network, 80.5% of the low pressure network</li> <li>• upgrading of the gas network to replace the most obsolete sections (cast iron and steel pipelines) with significant investments in cathodic protection</li> <li>• upgrading searches for leaks on the most critical infrastructures (cast iron network, hemp and lead joints)</li> <li>• continuation of searches for leaks linked to the replacement of electronic meters</li> <li>• 97% of emergency calls with on-site arrival times within 60 minutes</li> </ul>

Topic area	Actions carried out in 2018	Future Objectives
<b>Responsible management of business segments</b>	<p>Reduction of environmental impacts on electricity networks:</p> <ul style="list-style-type: none"> <li>• decommissioning of 50 electricity substations with electromagnetic emissions in the nearby area</li> <li>• decommissioning and disposal of 11 pieces of equipment containing 2,197 kg of oil contaminated with PCBs/PCTs</li> </ul> <p>Containment of olfactory emissions from the Parma IEC: continuation of upgrading works to the odour abatement system of the sludge treatment zone</p> <p>Reduction of liquid waste production: request to make minor changes to the Parma IEC to send waste water for chemical-physical processing, reducing the production of liquid waste sent to external plants</p> <p>Decommissioning and disposal of 96,205 kg of end-of-life equipment containing hazardous components</p> <p>Implementation of the QSA Certified System (Quality, Safety and Environment):</p> <ul style="list-style-type: none"> <li>• UNI 11352 certification for companies that supply energy services (ESCO) and the renewal for Iren Rinnovabili</li> <li>• transfer to Iren Rinnovabili of the F-Gas Certification obtained from Iren Energia</li> <li>• upgrading and extension of the QES certifications for Iren Ambiente and the R.E.I. landfill</li> <li>• implementation of a QES management system for TRM</li> <li>• implementation of the energy efficiency management system (ISO 50001) for Iren Energia</li> <li>• preliminary activities prior to the start of the implementation of the information security management system (ISO 27001)</li> <li>• development, testing and validation of the new environmental analysis method for sites, plants and processes</li> </ul>	<p>Reduction of the environmental impacts of electricity networks by 2023:</p> <ul style="list-style-type: none"> <li>• decommissioning of 250 electricity substations with electromagnetic emissions in the nearby area</li> <li>• complete renovation of 15 substations to completely remove electromagnetic emissions</li> <li>• decommission and disposal of 100 MV/LV transformers containing oil contaminated with PCBs/PCTs</li> </ul> <p>Containment of olfactory emissions from the Parma IEC: completion of upgrading works to the odour abatement system of the sludge treatment zone</p> <p>Reduction of liquid waste production: construction of the waste water channelling system at the treatment plant of the Parma IEC</p> <p>Continuation of the decommissioning and disposal of equipment containing hazardous components</p> <p>Implementation of the QSA Certified System (Quality, Safety and Environment):</p> <ul style="list-style-type: none"> <li>• ISO 9001 and BS OHSAS 18001 certification for the REI landfill</li> <li>• ISO 9001 and BS OHSAS 18001 certifications and maintenance of the ISO 14001 certification for TRM</li> <li>• UNI 50001 certification for Iren Energia</li> <li>• ISO 27001 certification</li> <li>• application of the new Environmental Analysis method to all Group companies certified ISO 14001</li> <li>• implementation of the integrated QES management system for ACAM Acque, ACAM Ambiente, ReCos and Spezia Energy Trading (ISO 9001, ISO 14001 and BS OHSAS 18001)</li> <li>• extension of Iren Laboratori's QES certifications to the Vercelli and La Spezia sites</li> <li>• extension of QES certifications to Disinfection, Disinfestation and Rodent Control</li> <li>• QES certifications of the activities carried out at the Mancasale (Reggio Emilia) site and the planning and construction activities at the Cornocchio (Parma) site</li> </ul>

## FUTURE GENERATIONS

Important Topics	Actions carried out in 2018	Future Objectives
<b>Sustainability education</b>	<p>Edu.Iren catalogue of educational offers available throughout the calendar year</p> <p>The Activation of the Water Plant (WTP) in Reggio Emilia: new models for plant visits</p> <p>Increase in the number of educational projects offered in the local areas</p>	<p>Extension of the model adopted at the Water Plant (WTP) to a plant in every area in which the Iren Group is present</p> <p>Trialling of best-in-class educational projects to be disseminated in all the areas that the Iren Group is present</p>



## PERSONNEL

Important Topics	Actions carried out in 2018	Future Objectives
<b>Employment</b>  <b>Development of human resources</b>  <b>Industrial Relations</b>  <b>Occupational health and safety</b>  <b>Corporate welfare and diversity</b>	<p>Continuation of demographic balancing: new retirements for employees who are eligible for a pension in 2019-2020 with the plan to hire young people (mainly under 35)</p> <p>Trial introduction of the Smart Working project for 311 employees</p> <p>The start of a project to identify strengths and areas for improvement related to the way in which the work is carried out, by surveying employees</p> <p>Implementation and diffusion of the presence of an attendance recording and robotic messaging system, which can also be used via the Mylren app on the company smartphone</p> <p>Completion of a harmonisation process for the Group's supplementary agreements</p> <p>Involvement of personnel in the policy and objectives of the Quality, Environment and Safety management system: monthly submission of company indicators concerning the number and type of accidents and their input into the company intranet (Group integrated reporting)</p> <p>Development of existing synergies between the certified Safety and Systems departments with the aim of unifying Group-level topics: update of the safety process sheet and the organisation of process committees; Group procedure for the unified management of accidents, near misses and accidents in companies; unified management of health supervision (organisation, health protocols and the Gamma IT system)</p> <p>Development of Gamma safety management software: inclusion of health/safety risk profiles for each Group employee</p>	<p>Doubling of the under-30 population by 2020</p> <p>Completion of the new system for assessing the organisational positions, skills and performance of Group personnel</p> <p>Verification of the trial and further extension of the Smart Working project</p> <p>Identification of improvement actions required to introduce flexible working and merit recognition initiatives</p> <p>Further extension of the attendance recording system using the Mylren app that can be accessed via the company smartphone for all Group personnel</p> <p>Development of existing synergies between the certified Safety and Systems departments with the aim of unifying Group-level topics: establishment of working Groups to unify transversal topics (PPE sheets used throughout the Group and the assessment of any new PPE following new risks, technological developments in products and regulatory changes; safety system procedures: emergency management, DUVRI, health supervision, general RAD, accident prevention surveillance; emergency Plan, evacuation and first aid)</p> <p>Development of Gamma safety management software: <ul style="list-style-type: none"> <li>• creation of RAD and safety training management</li> <li>• customisation and use of the app via the company intranet and smartphones</li> </ul> </p>

## SUPPLIERS

Important Topics	Actions carried out in 2018	Future Objectives
<b>Sustainable management of the supply chain</b>	<p>Expansion of the supplier performance monitoring and evaluation system via assessment outcome sheets implemented on the supplier portal</p> <p>Implementation of new models of questionnaires by product types to be added to the portal, reviewing the weights and scores and adjustment of the entry level</p>	<p>Improvement of supplier matching with product categories within the Suppliers' Register, in order to compare operators of equal technical-economic ability</p> <p>Monitoring and possible exclusion of suppliers that do not meet Group standards, via acid tests, assessment of the relevance of tender proposals and performance ratings</p>

# CUSTOMERS

Important Topics	Actions carried out in 2018	Future Objectives
<p><b>Service levels, customer focus and changes in customer expectations</b></p> <p><b>Marketing policies</b></p> <p><b>Internal and external communication</b></p>	<p>Maintenance and strengthening of position in traditional areas:</p> <ul style="list-style-type: none"> <li>• events in the local area, together with cultural institutions, with commercial and marketing activities</li> <li>• events for the customers of the Iren con Te programme, along with the main cultural bodies and theatres</li> <li>• communication on new e-mobility and home automation products</li> <li>• campaign to promote district heating (Turin and Piacenza)</li> <li>• standardising the commercial offer and customer care practices (contact channels)</li> </ul> <p>Loyalty, retention and the extension of contact channels:</p> <ul style="list-style-type: none"> <li>• renovation of commercial spaces (Parma, Chiavari, Vercelli and Grosseto) and opening of new Iren spaces (Genoa Sestri and Recco)</li> <li>• enhancement of the advantages and rewards for customers of the Iren con Te programme, with new participation and engagement mechanisms; extension of the programme to customers who live in new areas</li> <li>• new caring campaigns to promote specific services with the provision of vouchers and free policies</li> </ul> <p>Transformation of systems and processes for the digital evolution of the customer experience:</p> <ul style="list-style-type: none"> <li>• better positioning of the irenlucegas.it site in search engines, with a substantial increase in visits</li> <li>• consolidation of the partnership with the main energy price comparison sites, also with the promotion of offers for new services</li> <li>• Iren Luce Gas e Servizi joining Facebook, Twitter, Instagram and integration with the Group's LinkedIn and Youtube profiles; creation of a direct link with customers; web monitoring and sentiment analysis; advertising and digital PR</li> <li>• CRM development integrated with the billing system, release of the processes underlying sales, switch management, posts sales and customer care, in order to guarantee a customer experience that is centred around the needs and preferences of customers</li> </ul> <p>Consolidation of the "new downstream" project:</p> <ul style="list-style-type: none"> <li>• extension of the product and service portfolio (air purification system, condensing boiler, intelligent thermostat, carbonation-refrigeration system for household water)</li> <li>• promotion of "new downstream" products and services within Iren spaces, the activation of new sales channels (tobacconists and COOP points), enhancement of the e-commerce section of the website</li> </ul> <p>Consolidation within the e-mobility market:</p> <ul style="list-style-type: none"> <li>• long-term rental of electric vehicles and sale of bikes with pedal assistance for consumer customers; charging infrastructure and installation and maintenance services for business customers</li> <li>• installation of public recharging columns in Vercelli, participation in the protocol of the Municipality of Turin for the installation and management of urban recharging columns, signing of the memorandum of understanding in Genoa and Emilia to prepare public recharging networks</li> <li>• partnership for the incentive mechanism of electric scooter sharing in Turin (special conditions reserved for Iren customers and the supply of electricity from renewable sources)</li> <li>• company events on e-mobility in the reference areas and dedicated industry conferences</li> </ul>	<p>Maintenance and strengthening of position in traditional areas: strengthening the brand reputation, also via co-marketing with other relevant institutions and players in the reference areas, to reinforce the visibility and position of the range of offers and services</p> <p>Loyalty, retention and the extension of contact channels:</p> <ul style="list-style-type: none"> <li>• increase in the number of physical contact points and modernisation of existing spaces</li> <li>• consolidation and enhancement of the Iren con Te programme, increasing advantages and rewards and improving the participation mechanisms</li> <li>• activation of a "call back" service to avoid waiting times and guarantee easier telephone contact for customers, who can opt to be re-contacted by Iren within a few minutes, by appointment or via the web</li> </ul> <p>Transformation of systems and processes for the digital evolution of the customer experience:</p> <ul style="list-style-type: none"> <li>• continuation of the social media project to consolidate the caring channel, increase the fan base with advertising and sponsored posts, raise engagement with narrations of events and increase sales with product campaigns on core targets</li> <li>• conclusion of the development of the CRM platform and the migration towards new apps for the entire customer base, to guarantee a better service level of digital processes and multi-channel experience</li> <li>• development of the self-care area and paperless processes to provide customers with visibility concerning the progress of their requests through web/app tracking</li> <li>• completion of the release of CRM features for the management of post-sales and customer care processes</li> </ul> <p>Consolidation of the "new downstream" project: development of the range of products on offer with the optimisation of existing solutions and the introduction of new products and services paired with commodities</p> <p>Consolidation within the e-mobility market:</p> <ul style="list-style-type: none"> <li>• development and optimisation of the range of existing solutions and the introduction of new partners and products</li> <li>• development of existing channels and the search for new sales channels with a particular focus on business customers</li> </ul>



## SHAREHOLDERS AND FINANCIAL BACKERS

Important Topics	Actions carried out in 2018	Future Objectives
<b>Value and economic development for local areas</b>	Intensification of contact with institutional investors and financial analysts (19 roadshows), also in new financial markets (Sydney, Melbourne, Brussels, Antwerp and Toronto)	Additional increase in contacts with institutional investors in new financial markets
<b>Competitiveness</b>	<p>Strengthening the Investor Relations department to best meet the daily needs of analysts and fund managers, as part of our continuous pursuit of excellence in financial communication</p> <p>Confirmation from the Fitch agency of the public Investment Grade rating of BBB for Iren and its bond issues</p> <p>Improvement and use of new medium/long-term loans for 581 million Euro, of which 500 million Euro with a new Green Bond issue with a duration of 7 years</p> <p>Update of the bond issue programme (EMTN Programme) with the publication of a supplement to the Base Prospectus</p> <p>Liability management operations to reduce the cost of debt: including the early repayment of bank loans amounting to 296 million Euro</p> <p>Annual positive third-party verification (DNV GL) of compliance with the commitments made within the Sustainable Financing Framework and the release of the Periodic Review for investors</p> <p>Revision of the Green Bond Framework into the broadest form of Sustainable Financing Framework</p>	<p>Update of the Investor section of the Group's website for the continuous improvement of financial communication, making it more effective and complete</p> <p>Maintenance of the Investment Grade rating</p> <p>Continuation with the coverage activities of financial requirements to support the investments with a balanced relationship between short and medium/long term funds</p> <p>Full compliance with the commitments undertaken within the Green Bond Framework to benefit Socially Responsible Investors (SRI)</p> <p>Continuation of the optimisation of the debt portfolio also with liability management activities aimed at reducing the cost of debt</p> <p>Compliance with commitments undertaken for the benefit of Socially Responsible Investors and defined in the Sustainable Financing Framework</p>

## COMMUNITY, LOCAL AREAS AND INSTITUTIONS

Important Topics	Actions carried out in 2018	Future Objectives
<b>Development of local communities</b>	Growth in the quality and quantity of participated projects on sustainability, "incubated" by Local Committees: 9 new projects	Additional qualitative and quantitative growth in participatory planning with stakeholders for the sustainability of the local areas
<b>Dialogue with Public Authorities</b>	Dissemination of the Irencollabora.it platform: 1,208 profiles registered on Irencollabora, +32% compared to 2017, thanks to the initiatives carried out in 2018	Continuation of the diffusion of the IrenCollabora.it platform to generate projects with positive environmental and social impacts for communities
<b>Internal and external communication</b>	Analysis and study of the context for the implementation of Local Committees and Councils in the Group's new reference areas	Activation of Local Councils and Committees in the Group's new reference areas
<b>Impacts on the Local Area</b>	Integration of sustainability objectives and targets in the Business Plan to 2023	Updating of the sustainability objectives and targets of the Strategic Plan



# AWARDS AND RECOGNITION

In 2018, Iren Group received various recognitions relevant to corporate and environmental responsibility. Below is a summary of the main acknowledgements received.



2018 Top Employer certification for Iren Group, recognised by the Top Employers Institute as one of the best companies in human resources that offer excellent working conditions, train and develop talent and seek to improve and optimise their best practices in the field of human resources.



Special mention to Iren in the "Innovation and Technology" section of the "Business Excellence Award",

organised by GEA-Consulenti di direzione, Harvard Business Review Italia and Arca Fondi Sgr. The acknowledgement was made thanks to the strong focus on innovation in all areas of the Group.



**INTEGRATED GOVERNANCE INDEX**

Fourth place for Iren, the best medium-sized company, in the Top 10 ranking of the 2018 Integrated Governance Index,

an analysis model aimed at the top 100 Italian listed companies and their degree of integration of ESG (Environmental, Social and Governance) factors within business strategies.



SMAU Innovation Award given to Iren for its Industry 4.0 Project, as part of the 2018 SMAU Roadshow, identifying innovative solutions in the management of the Energy Business Unit.



Iren was included in the list of the best 25 multi-utility companies for 2017, as part of the research conducted by Thompson Reuters to identify the world leaders in the energy sector.



"2018 Sustainable Development Award" to Iren Group, recognised as one of the top 10 companies in the "renewable energy" industry for the Biomether project, a pilot plant producing biomethane from biogas derived from purification sludge at the Reggio Emilia treatment plant, due to its innovative content, positive economic and employment effects and its ability to be replicated.



Special Culture Award given by the Emilia Romagna Region to Iren as part of the Responsible Innovators Award

for "Dilemma: choices and consequences concerning ethical and environmental issues", supported by the Parma Local Committee and proposed by the Cibopertutti/Kuminda Association. A training project built around play for children over the ages of 14, based on 10 topics associated with the objectives of the UN's 2030 sustainable development goals.



**HUMANA**  
PICCOLI GESTI CHE TRASFORMANO IL MONDO

"2018 HUMANA Eco Solidarity Award" awarded by HUMANA

People to People Italia to Iren Ambiente for its active commitment to spreading the culture of sustainability to residents and raising awareness concerning the donation of used clothing.



**RICREA**  
CONSORZIO NAZIONALE RICICLO E RECUPERO IMBALLAGGI ACCIAIO

A special recognition from RICREA (National Consortium for the Recycling and Recovery of Steel Packaging) to AMIAT for its commitment to the separated collection of steel packaging in Turin.



**STORIE DI ALTERNANZA**

First national award, "Alternating Stories", promoted by Unioncamere and the

Chambers of Commerce, given to Iren for the "Are you Ecological?" educational project created with the Calvino Institute in Genoa. Third place nationally for the Agnelli Institute in Turin for the "A Solar Future" project and first place regionally for the Avogadro Institute in Turin for "Illuminate Turin", both projects were created in collaboration with the Iren Group.



Once again in 2018, the Group was a finalist in the "Technology, Research & Innovation" award from Top Utility, the think tank that studies public utility companies.



Iren Group's inclusion amongst the finalists of the sixteenth edition of the Sodalitas Social Award for the two

projects presented: the "Orto in condotta" school garden and "ReQpro".



First Interactive Key Award to Iren in the Corporate Sites category, for its new brand architecture, designed with the aim of integrating the complexity of the historical-territorial and corporate sides of the Iren Group into a single, harmonious whole.



Special Editor's Choice award, part of the Press, Outdoor & Promotion Key Award, given to Iren Luce Gas e Servizi for the most incisive communication campaigns on the Italian market.



**LE FONTI AWARDS ITALY**

Antonio Andreotti, Director of Personnel, Organisation and Information Systems at Iren, was

awarded Human Resources Director of the Year by the Le Fonti HR Awards in the category of electricity production and distribution companies.



Massimo Levrino, CFO of Iren, was awarded the "CFO Award" for the category of companies listed on the MTA, for the funding source diversification

project, aimed at strengthening the route to optimise the financial, environmental and social sustainability of the Iren Group.



## FOCUS

In April 2018, Iren received Oekom's Corporate Responsibility Rating, details of which are given below.

### oekom Corporate Rating

Legend: ■ Industry ■ Company --- Prime

## Iren SpA

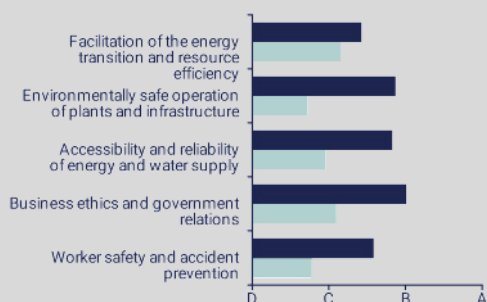
Industry: Utilities  
 Country: Italy  
 ISIN: IT0003027817  
 Status: Prime  
 Rating: B-  
 Prime Threshold: B-

**Prime**  
**B-**  
**B-**

Corporate Responsibility  
**Prime**  
 rated by  
**oekom research**

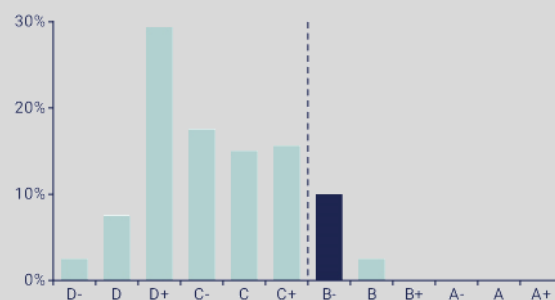


#### Key Issue Performance

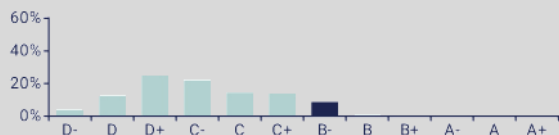


#### Distribution of Ratings

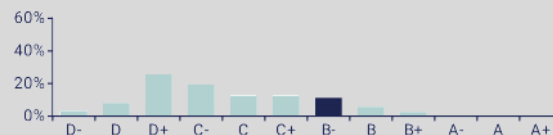
160 companies in the industry



**A. Social and Governance Rating**      **40.0%** | **B-**  
 Weight      Rating



**B. Environmental Rating**      **60.0%** | **B-**  
 Weight      Rating



**A.1. Staff and Suppliers**      **8.0%** | **B-**  
 Weight      Rating

**A.2. Society and Product Responsibility**      **24.0%** | **B-**  
 Weight      Rating

**A.3. Corporate Governance and Business Ethics**      **8.0%** | **B**  
 Weight      Rating

**B.1. Environmental Management**      **12.0%** | **B**  
 Weight      Rating

**B.2. Products and Services**      **42.0%** | **B-**  
 Weight      Rating

**B.3. Eco-efficiency**      **6.0%** | **C+**  
 Weight      Rating

# Iren value



## IMPORTANT TOPICS



Value and economic development for local areas



Competitiveness



## CREATING AND DISTRIBUTING VALUE

In 2018, Iren Group's economic results rose compared to the previous year: revenues +9.3%, EBITDA +17.9% and profit attributable to the Group +1.7%.

Economic indicators	unit of measure	2018	2017
Revenue	€/mln	4,041	3,697
Net Operating Margin	€/mln	967	820
Operating Result	€/mln	530	420
Profit attributable to the Group	€/mln	242	238
Total capitalisation	€/mln	2,727	3,191
Dividend per share	€	0.084 <sup>(1)</sup>	0.070

<sup>(1)</sup> Proposed by the Board of Directors

The net financial indebtedness as at 31/12/2018 amounts to 2,453 million Euro, up slightly compared to the 2,372 million Euro as at 31/12/2017.

Over the year, the Group made investments of 447 million Euro (+25.1% compared to 2017) for development works in the various business sectors, guaranteeing an important contribution for local communities.

Investments (millions of Euro)	2018	2017
Generation and district heating	79.6	55.8
Networks (electricity, gas, water cycle)	267.6	207.4
Market	31.0	20.5
Environmental Services	31.2	27.0
Others	37.6	46.7
<b>TOTAL</b>	<b>447.0</b>	<b>357.4</b>

The economic-financial performance shows, via a business portfolio with mainly regulated activities and a significant increase in investments, the Group's strong leaning towards the development of infrastructure to serve the growing economic systems of the areas served, and confirm its particular attention to environmental sustainability, digital transformation and innovation, in synergy with the businesses and institutions of the areas of reference, as defined prospectively in the Business Plan to 2023.

The focus of the strategic guidelines on environmental and sustainability issues influences the multi-year investment planning that is yet to be done. These same issues are part of the principles of the Code of Ethics that the companies of the Group are also required to comply with when making investments.

In the planning processes, the Group pays particular attention to the variables, emerging from economic and industrial scenarios of the sector, able to guarantee the medium and long-term availability of energy.

The analysis of the scenarios occurs through the continuous monitoring of the industrial, economic and financial dynamics.

In planning production capacity developments, the Group considers scenarios in the medium term related to the electricity market, as well as the development of district heating. Additional opportunities may emerge from regulatory scenarios that aid the growth of renewable energies. Maintenance programmes, on the other hand, have a temporary multi-year time frame and are defined by production, considering the requirements provided for each type of plant.

The energy generating facilities of the Iren Group are efficient and appropriate in terms of size, thanks to the significant investments in new production capacity and in rendering those already existing more efficient. In order to guarantee the maintenance of adequate production standards and reliability, the Group implements advanced management and maintenance policies (i.e. predictive and preventive maintenance). Furthermore, Iren focuses on innovation, increasing the efficiency and flexibility of its plants and developing projects targeted at the energy efficiency of the system (flexibility of combined-cycle plants, management of waste-to-energy plants to seize opportunities of district heating development, installation of heat storage systems and the design of mini hydro plants). Planned production capacity is supplied 75% by co-generation and thermoelectric plants, 22% from hydroelectric plants and 3% from other plants (waste-to-energy plants, photovoltaic, treatment plants).

Gas availability in the medium and long term is planned and ensured through the combined management of several sources: multi-year foreign procurement contracts, availability of foreign transport capacity that can be used on an event-basis, the annual availability of storage capacity and wholesale supply contracts. The combined use of these sources allows for natural gas demand to be met even during particularly harsh periods.

Planning is fundamental for guaranteeing the continuity, reliability and security of the integrated water service. This objective is overseen by the resource need analysis for the various areas, also in relation to their possible evolution and seasonality, and the attainment of diversion concessions that are proportional to the identified needs. This is complemented by the planning and management of ordinary and unscheduled maintenance, the renovation of plants and networks to contain water and sewage network leaks, the adoption of remote control systems and the automation of plants, a 24/7 emergency service, analytical checks and treatments to guarantee compliance with the qualitative requirements of the water supplied and the waste discharged from treatment plants.

In regard to waste management, at a plant level the production capacity and any revamping needs are assessed and planned. Specifically, for the Parma IEC no new scenarios are currently envisaged, also in consideration of the best construction technologies adopted and the environmental and energy performance that are superior to those found in similar plants. At the Piacenza waste-to-energy plant, the design/construction of the new co-generation plant is under way.

This will be connected to the waste-to-energy plant and will enable the supply of heat to the city's district heating network to be increased and will subsequently allow the network to be expanded. Regarding the waste-to-energy plant in Turin, the main objective is to make use of the heat produced to fuel the district heating network in the vicinity of the plant. The first supply of heat is expected for the 2019/2020 heating season. For the 3 plants, considering the specific plant type, planning is focused on the availability of energy in the medium and long term.

The Group has adopted a planning tool to guarantee the reliability of its electricity distribution network that defines the renovation, upgrading and extension rules and methods, for the main high-to-medium voltage transformer plants and networks: the "Strategic Plan for the Medium Voltage Distribution Network". The renovation and updating plan for the main plants, in addition to the gradual substitution of parts of obsolete plants, includes quality and technical improvements to the grid layout and its adaptation to future load increases. In order to guarantee service levels and the reliability of plants, the plan is reviewed and updated in the event that new significant supply requests or reliability and stability issues emerge for the medium voltage network or for the main plants. The management methods are assessed on the basis of the time schedules for the design and implementation of works and in correspondence with technical standards put in place for the construction of new main substations, by verifying and reviewing the projects established in the time schedules. The effectiveness and quality of the interventions are assessed with the maintenance and/or improvement of service level indicators established by ARERA.

In gas distribution, the plan aims to contain leaks, which is the main objective for the safety, quality, efficiency and continuity of service. Regular ordinary and unscheduled maintenance and the renovation of plants and networks, scheduled searching for leaks, the addition of gas odourants upon receipt by the national transport network, the maintenance of efficient and effective cathodic protection systems and the use of distributed monitoring systems, as well as constant supervision of plants and networks by highly qualified and constantly updated staff, all contribute to achieving this objective.

In the analysis of the scenarios at the planning stage, the Group also considers the impact produced by climate change trends: variations in the distribution of temperatures that impact the consumer dynamics of heat and district heating, gas and electricity and extremes of weather phenomena, such as droughts and floods. These determine, in particular, effects on the hydrology of the hydroelectric plants and water distribution systems, with the associated economic implications, and also constitute factors of attention given the consequences that these may have on the Group's assets and on the planning of the availability and maintenance scheduled for thermoelectric power plants. For these reasons, the risks associated with climate change and natural and catastrophe phenomena occupy a significant position in the map of the Group's risks.

The Risk Management Department considers these risks in its insurance programme.

The financial implications that the Group constantly monitors are also those arising from the costs associated with the ETS (Emission Trading System) and from its regulatory evolution.

## CREATION OF ADDED VALUE

Iren Group produces value using factors of production effectively, with the objective of generating added value compared to the external resources used. Furthermore, the business conducted contributes to the economic growth of the social and environmental context in which the Group operates and produces significant indirect effects in the local areas, especially in consideration of the investments undertaken and of employment.

*The Iren Group generates economic outcomes in the areas of reference that contribute to the growth of the social and environmental context*

Other than economic effects, the activities of the Group also generate important environmental repercussions through local development, development of basic infrastructures (electricity, gas and water system networks, water treatment plants and sewage systems) and essential services (waste collection and disposal). Moreover, all of the business areas present significant opportunities for the development of innovative technologies and processes and, consequently, for territorial growth, also in terms of know-how.

The Group contributes to the employment of the area in which it operates and generates added value, through actions aimed at increasing professional skills and at consolidating the improvements reached in the level of education. The Group has no specific local recruitment policy however, given the specific features of the Italian labour market, nearly all new recruits reside in the province where their place of work is located, while almost 82% of Senior Managers reside in the same region where their place of work is located.

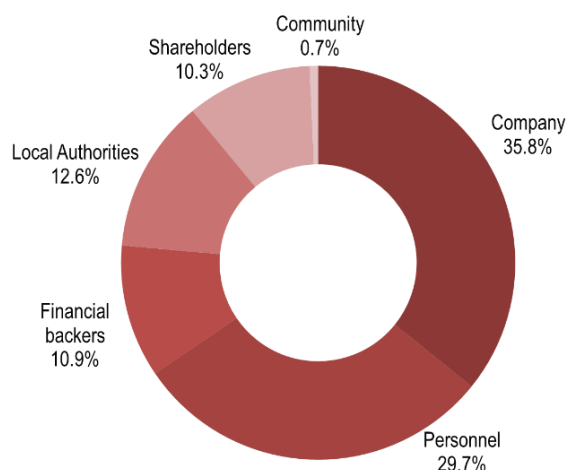
*Iren Group generates opportunities for the development of innovative technologies and processes and for the growth of territorial expertise*

The indicator that highlights the Group's ability to produce value within the area and, at the same time, satisfy the economic interests of its main stakeholders is represented by Added Value. This parameter measures both the economic performance of management and the ability of the Group to generate the conditions necessary to distribute wealth to the stakeholders of reference.

In 2018, Iren Group generated a total gross Added Value of 1,363 million Euro, up by 6.7% compared with 2017.



## DISTRIBUTION OF TOTAL GROSS ADDED VALUE TO STAKEHOLDERS IN 2018



The Added Value generated by Iren Group was allocated as follows:

- **35.8% to the Company** (approximately 488 million Euro). This is the share of wealth kept within the Group, inclusive of depreciation and undistributed profits;
- **29.7% to Personnel** (around 405 million Euro). This is the portion made up of salaries and wages, expenses and other personnel costs;
- **12.6% to Local Authorities** (around 171 million Euro). This is the portion distributed in the form of direct and indirect taxes, net of the grants received for the year;
- **10.9% to Financial Backers** (around 149 million Euro). This portion includes all the financial charges due by the Group to its creditors;
- **10.3% to Shareholders** (over 140 million Euro). This is the portion allocated to shareholders in the form of dividends;
- **0.7% to the Community** (around 10 million Euro). This is the portion allocated to local communities through the participation in the development of social, environmental, cultural and sporting events.

Determination of Added Value (thousands of Euro)	2018
Revenues from goods and services	3,697,607
Change in work in progress, semi-finished products, finished products and goods	10,187
Other income	191,085
<b>Production revenue</b>	<b>3,898,879</b>
Raw materials, consumables, supplies and goods	-1,387,337
Cost for services	-1,228,888
Other expenses	-20,219
Capitalised expenses for internal work	33,198
Provisions for risks	-81,150
<b>Intermediate production costs</b>	<b>-2,684,396</b>
<b>Gross added value from core business</b>	<b>1,214,483</b>
Non-core and non-recurring items	148,192
Net profit from discontinued operations	0
<b>Total gross added value</b>	<b>1,362,675</b>

## TAXES AND DUTIES

Regarding the portion of Added Value distributed to Local Authorities, a significant item is represented by the taxes and duties paid by Iren Group.

The income taxes for FY 2018 amount to over 116 million Euro, up by 11.4% compared to 2017. The effective tax rate is 29.90%.

In 2018, the Group received around 6.9 million Euro in benefits and grants from Local Authorities, of which 3.9 million Euro in capital investments.

Taxes and duties paid (millions of Euro)	2018	2017
Government and Region	116.29	104.36
<b>Total direct taxes and duties</b>	<b>116.29</b>	<b>104.36</b>
ATO concession fees	2.83	3.01
Other concession fees	23.90	23.66
Derivation, taxes and licences (derivation fees and surtaxes)	16.50	16.08
Taxes and duties	23.04	20.19
<b>Total indirect taxes and duties</b>	<b>66.27</b>	<b>62.94</b>
<b>TOTAL</b>	<b>182.56</b>	<b>167.30</b>

# Environment



## IMPORTANT TOPICS



Emissions



Sustainable use of water resources



Biodiversity



Energy efficiency, renewable sources and district heating



Circular economy: waste management, collection and reuse



## POLICIES FOR THE ENVIRONMENT

Environmental protection, the rational use of natural resources and sustainable development have always been central to the Iren Group's attention, due to the nature of its business and the focus of its *mission*. This commitment is made clear in the Integrated System Policy, which is distributed and shared with all Group personnel and companies.

Respect and protection for the environment, the rational use of water resources, efficiency and the reduction in energy consumption, the development of renewable sources and the proper management of the integrated waste cycle are fundamental elements that direct the Group's strategic choices, as shown by the guidelines and as confirmed by the sustainability objectives in the Business Plan at 2023.

To pursue its environmental mission, the Group has adopted management systems, such as the ISO 14001, ISO 50001 and UNI CEI 11352 certifications, F-GAS certification and EMAS Registration. In addition to raising the awareness among its personnel via special training, the Group has also developed tools to monitor performance, such as the environmental impact/aspects assessment, analytical checks, internal audits and controls to check legislative compliance, which also aim to monitor performances in terms of sustainability and environmental protection.

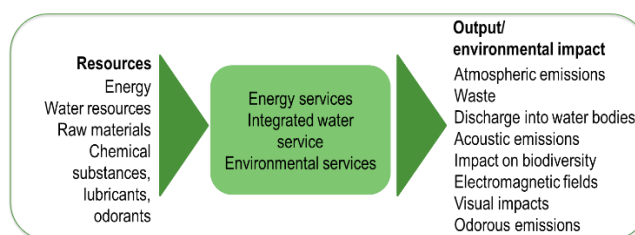
## PRODUCTION PROCESSES AND PRINCIPAL ENVIRONMENTAL IMPACTS

Iren Group activities which lead to direct and indirect environmental impacts include:

- **production of hydroelectric, solar and thermoelectric energy** (cogeneration plants, traditional plants, supplementary and reserve plants);

- management of high, medium and low voltage **electricity distribution** networks, lines and transformer substations;
- distribution of **natural gas**;
- management of the **integrated water service**;
- **waste collection, management and disposal** services, and related activities;
- **other customer services** (including electric mobility, energy efficiency and the new downstream project);
- **environmental practices** of contractors, subcontractors and other suppliers of the Group.

Resources are used in these operating areas for the management of operating activities and outputs and impacts are generated, as illustrated in the following diagram.



## DIRECT AND INDIRECT ENERGY CONSUMPTION

The **direct energy consumption** of the Group concerns the use of fuels, used for the production of electricity and heat from the plants (cogeneration plants, thermal plants, boilers, waste-to-energy plants and landfills), as well as the non-renewable primary energy flows not directly associated with the production of energy (i.e. site heating, fuel for the Group's vehicle fleet, etc.), used in carrying out the Group activities.

**Indirect energy consumption** (electricity purchased and consumed by the Group) refers to the sites and production plants. The electricity used by the energy production plants is partially self-produced and the relevant figures are included in the direct fuel consumptions. If the electricity used exceeds the amount self-produced, electricity is purchased from third parties and accounted for in the indirect energy consumption of the Group, which, in 2018, amounted to 353 GWh, equal to 66,015 TOE (2,763,390 GJ).

Direct energy consumption by energy source	unit of measure	2018	2017	2016
<b>Total direct energy consumption</b>	<b>TOE</b>	<b>1,268,232</b>	<b>1,304,134</b>	<b>1,322,099</b>
<b>Total direct energy consumption</b>	<b>GJ</b>	<b>53,088,188</b>	<b>54,591,046</b>	<b>55,343,096</b>
Natural gas <sup>(1)</sup>	m <sup>3</sup> /000	1,496,769	1,541,325	1,558,452
Natural gas	TOE	1,251,299	1,288,317	1,302,866
Diesel	t	76	107	143
Diesel	TOE	78	109	154
Biogas from purification plants and landfills	m <sup>3</sup> /000	27,792	26,595	33,177
Biogas from purification plants and landfills	TOE	10,047	9,880	12,093
Fuel for motor vehicles <sup>(2)</sup>	t	6,681	5,744	6,504
Fuel for motor vehicles	TOE	6,808	5,828	6,986

<sup>(1)</sup> The reduction in natural gas consumption is largely due to a change in the data collection method for office heating consumption.

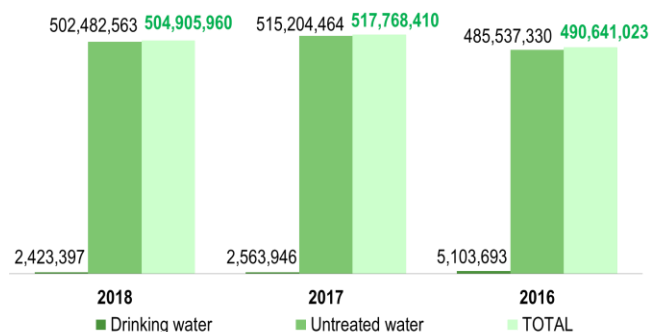
<sup>(2)</sup> The increase in vehicles consumption is mainly due to the consumption of diesel. In fact, in 2018, the Group continued its campaign to replace obsolete vehicles with new Euro 6 category diesel vehicles.



## WITHDRAWAL OF WATER

The water supply to the Group's sites is made by withdrawing water from the water network, from groundwater pumped from wells and from surface water bodies.

### WATER WITHDRAWAL BY SOURCE (m<sup>3</sup>)<sup>(1)</sup>



<sup>(1)</sup> Note that estimates of withdrawals have been made for certain months, when there were no updated invoices, and that the figure of drinking water for 2017 has been restated.

The main production sites of the Group have implemented a certified environmental management system (UNI EN ISO 14001) and are in possession of EMAS registrations; therefore, they have various procedures for the management of water resources, which represent an operating instrument to follow in dealing with issues related to withdrawals and discharges. The procedures are applicable:

- to the various types of production processes and/or supplies of services, which require the use of the water resource, even for a secondary purpose;
- to water withdrawals of any type and purpose (surface, ground water, from aqueducts);
- to treatments and qualitative modifications of the resource water made for any reason;
- to water discharges of any kind, purpose and origin (civil or industrial), destined to soil, subsoil, surface water bodies and sewers.

The Iren Group pays particular attention to the implementation of initiatives to reduce water withdrawal for industrial and civil use as summarised in the table below.

Use	Water Source	Withdrawal reduction initiatives
Energy production	57 withdrawals from superficial water (of which 9 reservoirs and 4 sources) 16 withdrawals from groundwater (wells for industrial use)	In thermoelectric production (in particular at the Torino Nord plant) second flush rainwater collection systems are present as well as condensation from air refrigeration input to the gas turbine. The industrial water recovered is used for firefighting purposes, to supply the demineralised water production installation and for plant-related services.
Waste treatment and disposal	8 withdrawals from groundwater (wells) 3 withdrawals from superficial water (sources)	Water for industrial use (for example, for cooling, demineralised water production, firefighting and technological services) comes from groundwater not suitable for drinking, where possible. Priority is given to the recovery and recycling of water to save water resources at source and limit the impact on public treatment systems (for example, the use of waste water to shut-down combustion slag).
Gas distribution	89 withdrawals from the water network 1 withdrawal from groundwater (well)	In order to reduce the water consumption used during the humidification process for gas distribution, systems were introduced to lower the temperatures for the pre-heating of the gas within the pressure reduction station.
Integrated water cycle	1,530 withdrawals from superficial water (of which 1,451 groups of sources and 7 reservoirs) 563 withdrawals from groundwater (563 well fields)	The water supply for drinking water purposes occurs in different ways in the various areas. In the mountain areas, most withdrawals come from source, reservoirs and surface waters. In lowland areas, on the other hand, withdrawals come almost exclusively from wells.

In energy production, each activity and operation regarding the use of water sources is regulated by the provisions of the law or authorisations with the responsibility lying in the hands of the Legal Representative of the Company or Managers, provided with specific powers of attorney and proxies, who have the task of managing and supervising the correct performance of the activities and the correct application of the procedures. Moreover, the "environmental analysis" document, prepared for each site/plant, allows for the identification of the environmental aspects related to water resources and the obligations foreseen by environmental legislations. The analysis also identifies the applicability of the

legislation to Iren Group plants as well as the compliance with the regulations in force.

Within the integrated water service, the supply of drinking water is elaborated on the basis of effectiveness and efficiency criteria and in compliance with the law and resulting concessions. The criteria for the use of the resources take account of: authorised quantities, the size of the reserves in the main reservoirs, the quality of the surface water available, the hydrological features of the basins, the data relating to the previous year and data relating to the current year. The supply plan can be modified, reviewed or updated on a monthly basis following an analysis of the data collected during the



measurement and monitoring activities in the phases of the process.

## WATER DISCHARGES

The activities carried out at the Iren Group's production sites generate water discharges of industrial and domestic waste water. The most relevant water discharges result from:

- industrial discharges (including water used to cool plants);
- integrated water service (in addition to the waste water treated in the purification service, includes process water from production and purification systems, which do not contain particular pollutants);
- waste management and treatment;
- washing vehicles and industrial areas;
- discharge of domestic water at non-industrial sites.

Water discharges (m <sup>3</sup> ) <sup>(1)</sup>	2018	2017	2016
Cogeneration plants and boilers	296,951,239	300,341,030	252,714,237
Thermoelectric plants	199,693,171	209,435,653	227,508,336
Waste-to-energy plants	370,582	362,788	366,234
Chemical physical treatment plants	178,325	136,190	223,150
Waste compacting plant	16,458	19,808	27,180
Self-wash <sup>(2)</sup>	54,743	56,988	57,058
Industrial use for the integrated water service	6,324,769	7,377,867	N/A

<sup>(1)</sup> Note that only water discharges from Group activities are given, with the exception of volumes of passing water for hydroelectric production (which is not considered as discharge) and domestic water.

<sup>(2)</sup> Note that the data for 2016 and 2017 were restated.

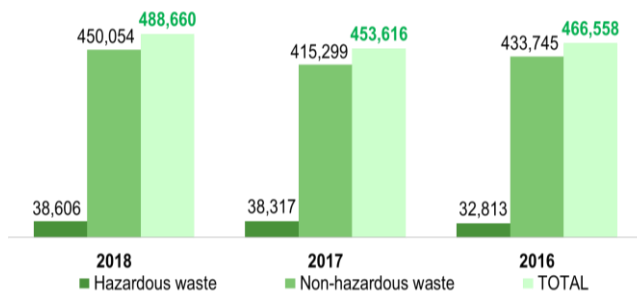
## WASTE PRODUCTION

Environmental protection is also achieved through responsible management of waste produced by the Group during its activities. The amounts of waste produced are communicated on a yearly basis to the Chamber of Commerce through the MUD *environmental declaration form (Modello Unico di Dichiarazione Ambientale)*. The data regarding the waste produced mainly refers to management activities and ordinary and unscheduled maintenance of:

- energy and heat production plants;
- waste-to-energy plants and other waste treatment plants;
- electricity, gas and water distribution networks.

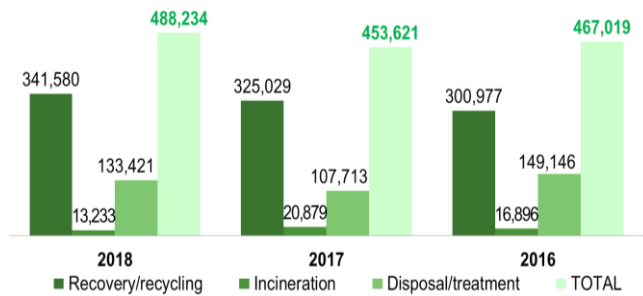
Systems of separated waste collection, aiming to increase material recycling, have been installed in all Group sites. Policies limiting the use of paper have also been drawn up and implemented through dematerialisation projects and computerisation of processes. Waste management and disposal occurs in compliance with the laws in force. Most of the waste produced is treated and recovered (treatment, recycling, reuse, composting and recovery of material). In 2018, approximately 70% of waste produced by the Group was sent for the recycling/recovery of material.

### WASTE PRODUCED (t) <sup>(1)</sup>



<sup>(1)</sup> The increase in waste produced by the Group in 2018 is due to the extension of the corporate perimeter.

### WASTE DISPOSED OF (t) <sup>(1)</sup>

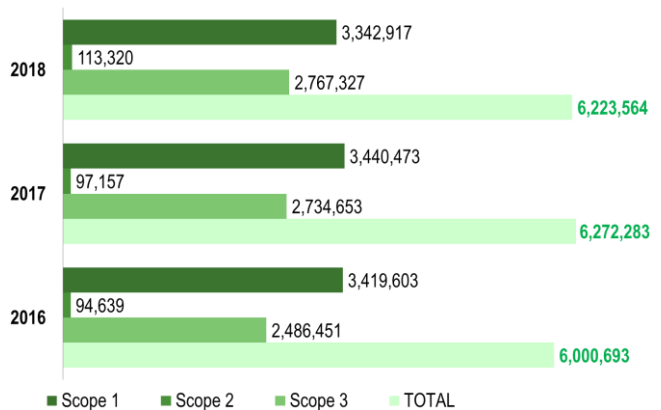


<sup>(1)</sup> The difference between waste produced and disposed is due to temporary deposit.

## ATMOSPHERIC EMISSIONS

The activities of Iren Group generate atmospheric emissions both directly, from production, and indirectly, from the supply of electricity from third parties.

### TOTAL EMISSIONS OF CO<sub>2</sub> (t) <sup>(1)</sup>



<sup>(1)</sup> The figures for 2017 and 2016 were restated.

Reporting will therefore consider:

- **scope 1:** all direct emissions from sources owned by the Group; i.e. CO<sub>2</sub> emissions generated from fuels burned in plants for the production of energy and heat, those originating from the company fleet/owned vehicles and those deriving from natural gas consumption to produce heat for the heating systems of the various office buildings and/or other activities that support production;
- **scope 2:** CO<sub>2</sub> emissions from indirect consumption of the Group; i.e. emissions generated from the purchase of electricity, consumed in Iren plants and offices, from third party suppliers;
- **scope 3:** all emissions that are not directly controlled by the Group, although connected to the specific activity and business.

## SCOPE 1 EMISSIONS

Direct CO <sub>2</sub> emissions – Scope 1 (t)	2018	2017	2016
<b>Direct emissions from production plants</b>	<b>3,325,895</b>	<b>3,418,217</b>	<b>3,400,421</b>
- of which from cogeneration, thermal and thermoelectric power plants <sup>(1)</sup>	2,911,546	3,017,290	3,035,537
- of which from waste-to-energy plants (non-biogenic portion)	414,305	400,846	364,681
- of which other combustion reactions for process uses or services	44	81	203
<b>Other direct emissions</b>	<b>5,817</b>	<b>8,265</b>	<b>5,839</b>
<b>Emissions from company vehicles</b>	<b>11,205</b>	<b>13,991</b>	<b>13,343</b>
<b>TOTAL</b>	<b>3,342,917</b>	<b>3,440,473</b>	<b>3,419,603</b>

<sup>(1)</sup> The figures for 2017 and 2016 were restated.

Direct biogenic CO <sub>2</sub> emissions (t)	2018	2017	2016
<b>Direct emissions from production plants</b>			
- of which from waste-to-energy plants (biogenic portion)	431,216	417,207	379,566
- of which from landfills and treatment plants <sup>(1)</sup>	22,224	26,493	25,706
<b>TOTAL</b>	<b>453,440</b>	<b>443,700</b>	<b>405,272</b>

<sup>(1)</sup> The figures for 2017 and 2016 were restated.

## SCOPE 2 EMISSIONS

CO <sub>2</sub> emissions from electricity purchased from third parties – Scope 2 (t) <sup>(1)</sup>	2018	2017	2016
Emissions from electricity purchased for process activities	103,977	92,416	90,192
Emissions for electricity purchased for office activities	9,343	4,741	4,447
<b>TOTAL</b>	<b>113,320</b>	<b>97,157</b>	<b>94,639</b>

<sup>(1)</sup> The emissions are calculated by multiplying the electricity purchased from third parties by the emission factor of the national thermoelectric mix, which was 321 gCO<sub>2</sub>/kwh in 2018 (Source: NIR2018\_ITALY). This factor accounts for the mix of various production sources for the electricity purchased.

## SCOPE 3 EMISSIONS

The Group is indirectly responsible for emissions produced in addition to its production processes, i.e. those produced by its suppliers and customers and by the entire value chain. For this reason, since 2018, the Group has extended the reporting

perimeter for emissions to also take into account the impacts of the supply chain, the use of products sold and the travel of its employees. These emissions are calculated according to the Greenhouse Gas (GHG) Protocol method.

CO <sub>2</sub> emissions – Scope 3	2018	2017	2016
Goods and services purchased <sup>(1)</sup>	468,152	505,889	532,257
Use of products sold <sup>(2)</sup>	2,297,380	2,227,176	1,952,733
Transport of waste produced <sup>(3)</sup>	1,367	1,300	1,204
Business trips <sup>(4)</sup>	428	288	257
<b>TOTAL</b>	<b>2,767,327</b>	<b>2,734,653</b>	<b>2,486,451</b>

<sup>(1)</sup> To carry out the calculation, the entire amount ordered from suppliers as at 31/12/2018 was analysed (excluding orders for fuel, gas and electricity already included in Scope 1 and 2 emissions) and emissions deriving from the production of each type of goods and services purchased were estimated.

<sup>(2)</sup> For the calculation, the quantities of gas sold were taken into account, which are not produced by the Group and are therefore not included in Scope 1 emissions. The emissions are calculated by multiplying the volume (m<sup>3</sup>) of gas sold to end customers by the emission factor (m<sup>3</sup>/CO<sub>2</sub>).

<sup>(3)</sup> Emissions from the transport of waste produced by the Group are calculated by multiplying the weight of the waste produced and sent to third-party plants by the emission factor of 4 t CO<sub>2</sub>/t of waste.

<sup>(4)</sup> The emissions were calculated by analysing orders for trains, planes, hotels, etc. placed in 2018.



Other atmospheric emissions from production plants concern sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), particulates and methane (CH<sub>4</sub>):

Atmospheric emissions (t)	2018	2017	2016
SO <sub>x</sub>	9.80	6.31	4.60
NO <sub>x</sub>	809.65	765.62	765.51
Particulates	17.70	12.57	18.94
CH <sub>4</sub>	5,867.79	6,824.01	8,709.60

## EMISSIONS OF OZONE DEPLETING SUBSTANCES

Substances harmful to the ozone layer are normally present in the coolants used in air conditioning and refrigeration systems. The only harmful substance used by Iren Group is R22 (chlorofluoromethane), which is present in plants either owned by the Group or managed for third parties (e.g. air-conditioner cooling circuits). Emissions of this substance are monitored on the basis of the quantities of coolant added following periodic maintenance checks (topping up).

To prevent the release of substances harmful to the ozone layer from the Group's air-conditioning systems, all the measures laid down by Italian Presidential Decree no. 147/06 have been implemented. All equipment was therefore registered, indicating the gases they contain and the respective quantities and these are subjected to periodic checks to ensure that there are no leaks, as well as to check its correct functioning and cleanliness.

*Ozone depleting substances are periodically monitored by specialised technicians of the Group*

## PCB MANAGEMENT

Polychlorinated biphenyls (PCBs) are aromatic compounds consisting of toxic chlorinated molecules that are persistent organic pollutants with bio-accumulative properties. They are found within transformers and other electrical equipment. To avoid forms of pollution or dispersion of these substances, the Iren Group regularly and continuously updates the number of machines containing insulating oil and the quantity contained in them, in accordance with registration and cataloguing procedures.

*The data on PCBs are constantly updated and all devices that contain them are currently being decommissioned*

As with previous years, the environmental performance improvement programme in the field of electricity distribution provides for the gradual decommissioning of electrical devices containing PCB/PCT contaminated oil. The goal is to keep the disposal trend steady until the elimination of all of the devices contaminated by PCBs/PCTs.

In 2018, 11 devices containing oil contaminated with PCBs at a concentration between 50 and 500 ppm were sent for disposal.

Oil containing PCB disposed of (kg) <sup>(1)</sup>	2018	2017	2016
with PCB content of over 0.05%	0	0	0
with PCB content between 0.005% and 0.05%	2,197	5,019	4,935
<b>TOTAL</b>	<b>2,197</b>	<b>5,019</b>	<b>4,935</b>

<sup>(1)</sup> The total amount of oil containing PCB in the transformers and other equipment as at 31/12/2018 is equal to about 58,250 kg.

## SIGNIFICANT SPILLS

There were no significant accidental spills in 2018.

## NOISE AND MEASURES TAKEN TO REDUCE THE ACOUSTIC IMPACT

Iren Group employs specialised technicians to carry out activities of monitoring, assessment and mitigation of noise emissions for the entire life cycle of their installations and infrastructures.

In regard to acoustic pollution reduction, a very sensitive issue and subject to the attention of citizens, the Group devotes its efforts and resources to reducing the noise caused by its activities, also using acoustic mitigation works (i.e. soundproof panels and silencers). To check that the limits laid down by current legislation are respected, specific Acoustic Impact Assessments were carried out on the local population at each **production site**. In cases where the specified limits were exceeded, acoustic decontamination measures were taken on the most significant sources to bring the noise emitted below the legal limit. Periodic phonometric tests are also carried out at the perimeters of the sites or in proximity of the sensitive receptors; moreover, upon receiving reports or complaints from citizens, we implement appropriate measurements to assess the need for specific mitigation measures.

The campaigns carried out to measure the impact of noise produced on the surrounding environment by the **gas distribution** plants did not identify any critical areas.

Also with regard to the **distribution of electricity**, there were no critical situations in which the allowed noise limits were exceeded. Therefore, it was not necessary to create noise mitigation systems at the main electricity transformer plants.

The subject of reducing the acoustic impact is normally not particularly relevant for the **integrated water service**.

Despite this, machinery and equipment (compressors, grills, etc.) are replaced during the unscheduled maintenance interventions with models producing lower levels of acoustic impact or greater degree of soundproofing.

Lastly, regarding **environmental services**, phonometric tests are periodically carried out on waste collection, street sweeping and collection centres.

For waste-to-energy plants periodic acoustic monitoring campaigns are carried out.

To date, the results of the investigations conducted show that the limits have been respected.

## ELECTROMAGNETIC FIELDS

For several years now Iren Group has been measuring electromagnetic fields, which involve:

- primary electricity power plants and stations;
- overhead and underground HV power lines;
- MV/MV and MV/LV electricity substations installed in schools, hospitals, parks, or with specific load characteristics;
- MV/LV electricity substations with a higher capacity;
- office buildings of Group Companies.

Safety and electromagnetic field checks for new/renovated substations were carried out every six months from 2018 to allow a significant electrical load to be monitored. Specifically, a technical safety inspection is carried out, combined with the results of the electromagnetic fields measurements. During the inspections, the location of the substation is checked, as well as the electrical equipment it contains with respect to any sensitive adjacent buildings and any potentially hazardous situations found in the substation that are environmental, electrical, etc. in nature. In 2018, 21 inspections/checks were carried out on 39 new substations and 34 renovated substations. The relative checks are planned for the majority of the remaining substations during the first half of 2019.

## MATERIALS USED

Separated process materials that are purchased from external suppliers are used in production and service processes. They include, but are not limited to, products for cooling and lubricating plants and machinery, substances for treating water, reagents for waste treatment and waste-to-energy processes. In 2018, the Group used 212,951 t of process materials in total, with a marginal proportion of renewable materials, considering the type of processes managed.

As part of the Group's supplier qualification process, certain qualitative information is specifically requested regarding the use of materials with low emissions, low energy consumption, of recycled or recyclable material and the eventual adoption of procedures for the storage and collection of recyclable materials in order to guarantee recycling.



# REDUCTION OF EMISSIONS AND ENVIRONMENTAL IMPACTS

## INVESTMENTS FOR THE ENVIRONMENT

Iren Group undertakes, with responsibility and with the use of human and economic resources, a commitment to reduce its impacts and protect the environment. The expenses and investments incurred in 2018 for environmental protection amount to over 411 million Euro and included:

- 61% to improve and increase the efficiency of electricity and gas distribution networks and water treatment and purification plants and obtaining hydroelectric green certificates and other improvement projects (e.g. smart cities);
- 32% to optimise separated waste collection systems to pursue the waste recovery objectives set out in the territorial area plans; specifically, in 2018, with the extension of the door-to-door service in the Municipality of Turin;
- 6% to raise the efficiency of the electricity and thermal energy production plants via heat storage, work to make them more flexible and revamping and developing production from renewable sources;
- 1% to implement services and products with positive environmental impacts for customers (e.g. the e-mobility project).

## REDUCTION OF EMISSIONS

The Group carefully monitors atmospheric emissions (measurements on chimneys, indirect calculations, number of leaks, etc.) in order to identify specific measures to reduce them and verify the results achieved on a regular basis.

The generation of electricity from renewable sources creates significant positive effects on the reduction of emissions and the predominant cogeneration framework (production of electricity and thermal energy that feeds the district heating networks in different cities) of the Group's thermoelectric plants significantly contributes to containing specific greenhouse gas emissions.

*In 2018, renewable sources, cogeneration and separated waste collection have made it possible to reduce emissions by over 2.4 million tonnes of CO<sub>2</sub>*

In order to reduce pollution, only natural gas is used to supply the energy production plants and both low emission combustion systems and pollutant reduction systems are installed (catalysts for the reduction of CO and NO<sub>x</sub>).

Continuous emission monitoring systems make it possible to detect in real time the main pollutants and the improvement of the efficiency of the combustion process of cogeneration plants, larger thermal plants and waste-to-energy plants. The latter are also



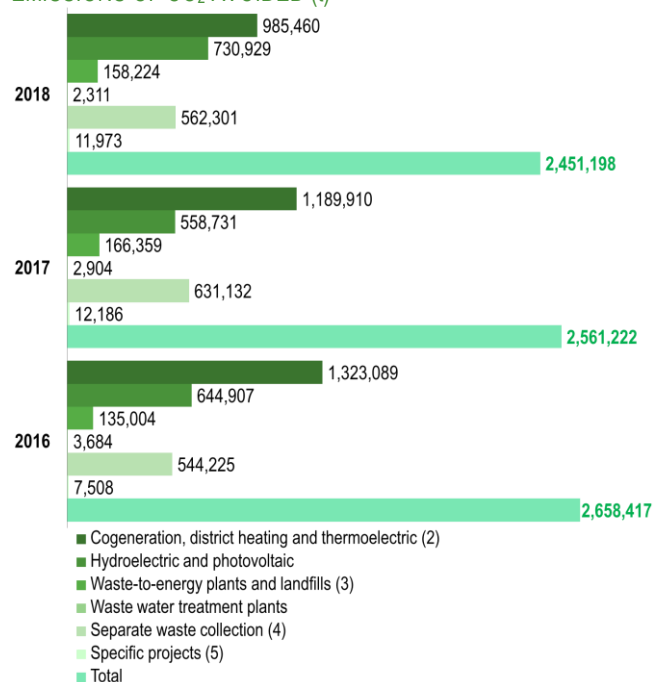
required, pursuant to the relevant Integrated Environmental Authorisations (IEA), to comply with stricter emission limits than those contained in national legislation.

Pursuant to the IPPC environmental legislation and relevant IEAs, it is mandatory for power plants with a capacity exceeding 50 MW to continually improve environmental services, by updating to the best available technology in order to continually reduce the pollution for the different environmental compartments, including atmospheric emissions. Moreover, ozone depleting substances are being progressively replaced at corporate sites with substances that have a lesser impact.

The combustion of the biogas produced in landfills produces the maximum reduction of methane and other greenhouse gas emissions, although its conversion into CO<sub>2</sub> has a potential greenhouse effect 21 times lower than natural gas (Source: UNI ISO 14064).

The CO<sub>2</sub> emissions avoided thanks to energy production and separated waste collection are given in the table below and amounted to over 2.4 million tonnes of CO<sub>2</sub> in 2018.

#### EMISSIONS OF CO<sub>2</sub> AVOIDED (t) <sup>(1)</sup>



<sup>(1)</sup> The calculation of CO<sub>2</sub> avoided considers as a parameter of reference the emissions of the domestic electric system equal to 478.224 kgCO<sub>2</sub>/MWh in 2018, 491.789 kgCO<sub>2</sub>/MWh in 2017 and 512.371 kgCO<sub>2</sub>/MWh in 2016 (Terna and PNA data). With regard to the reduction in CO<sub>2</sub>/MWh factor, due to the improvement in the national plant mix, there was a decrease in the emissions avoided by the Group.

<sup>(2)</sup> The data for 2016 and 2017 were restated.

<sup>(3)</sup> The calculation of CO<sub>2</sub> emissions avoided accounts for the quota of production of the electricity referable to renewable sources, for 51% of total production (Source: GSE - Electricity Services Provider), multiplied by the conversion factor of 478.224 kgCO<sub>2</sub>/MWh (national energy mix data). In the case of the IEC, that also produces thermal energy, the emissions of CO<sub>2</sub> avoided are calculated by converting thermal energy into electricity (for IEC=1/6.88) and applying the above-mentioned formula.

<sup>(4)</sup> The calculation is based on the correlation between the tonnes of waste recycled for the most important categories (paper and cardboard, plastic, organic and green, wood, iron, glass) and the tonnes of CO<sub>2</sub> equivalent saved (Source: Waste management options and climate change EC-AEA 2001).

<sup>(5)</sup> Specific projects included LED lighting, water dispensers and IrenGO.

Emissions of NO <sub>x</sub> and SO <sub>x</sub> avoided <sup>(1)</sup> (t)	2018	2017	2016
Nitrogen oxides (NO <sub>x</sub> )	591	676	3,007
Sulphur oxides (SO <sub>x</sub> )	2,202	2,306	2,821

<sup>(1)</sup> The calculation was made considering the emissions that, in equal quantities produced, would have been generated by building boilers and the domestic electric system. The actual emissions produced by the plants of the Group were subtracted from these. The difference between 2018 and 2017 compared to 2016 is linked to the update of the emission factor for the domestic thermoelectric park (source: "Studio degli impatti sulla qualità dell'aria del sistema di teleriscaldamento di Torino [Study on the impacts on air quality of the Turin district heating system]", Politecnico di Torino University).

## INITIATIVES TO MITIGATE ENVIRONMENTAL IMPACTS

The Group has undertaken many initiatives to reduce the environmental impacts of its main activities.

### ENVIRONMENTAL SERVICES

All Group **waste-to-energy plants** are equipped with emission monitoring systems that check both emissions from the energy and heat production plant and the waste combustion process. The monitoring system is guaranteed by continuous measurements and checks on compliance with legislation and the Integrated Environmental Authorisation with the control of the indicated substances. To make the adjustments of the combustion parameters even more prompt and to optimise the abatement of mercury, in 2018, a campaign was held to measure this pollutant and an additional analyser was added to line 3 of the Turin waste-to-energy plant. Furthermore, studies have been completed and improvements have been made to the activated carbon dosage back-up system on the same line, which will make its pollutant-reducing capacity even more efficient. In 2019, activities to integrate lines 2 and 3 of the same plant within this system will continue.

With regard to the containment of the biogas emissions from **landfills**, cycles of internal control are carried out for the regulation of the valves at the top of the biogas collector wells with measurement of the capturing efficiency of the plant.

Other sector initiatives are listed below.

**Replacement of roll on/off compactors:** the programme provides for the replacement, where possible, of roll on/off compactors powered by diesel with similar electrical equipment. In 2018, 10 new compactors were purchased, of which 6 were utilised for new customers and the remaining ones replaced the traditional equipment, with a subsequent reduction in both acoustic emissions and atmospheric pollutants.

	2018	2017	2016
Compactors substituted (%)	81.7	68	54

### INTEGRATED WATER SERVICE

The initiatives aimed at reducing the environmental impacts mainly concern:

- the reduction of energy consumption by adapting waste water treatment processes and replacing old machines with the latest generation equipment that consumes less energy;

- the replacement of submersed electric pumps of the pumping stations with new pumps fitted with inverters;
- the reduction of water procurement through the reduction of water mains leaks;
- the improvement of the quality of the water that leaves the treatment plants and the connection of stretches of untreated sewage to final treatment systems;
- the abatement and containment of odorous emissions from treatment plants by confining them to secure rooms during the treatment process in order to allow the air to be aspirated and treated.

*Public water dispensers have allowed approximately 1,880 tonnes of CO<sub>2</sub> to be avoided, equal to 1,400 TOE*

The public water dispensers for the free distribution of drinking water (chilled or sparkling) to the residents made it possible to considerably reduce the use of plastic bottles (approximately 20.6 million 1.5 litre bottles in 2018) and, therefore, the production of waste (722 t of PET avoided). Savings of 1,878 tonnes of CO<sub>2</sub> can be estimated for 2018, thanks to the non-consumption of 1,371 tonnes of oil equivalent for the production of the bottles.

#### GAS DISTRIBUTION

The main environmental impact from the gas distribution network is the leakage of methane gas into the atmosphere. To guarantee the safety, quality and continuity of service levels, the Group has adopted distributed monitoring systems (for example, remote

control) and intrusion detection systems, as well as ongoing scheduled research and ordinary and extraordinary maintenance of networks and substations.

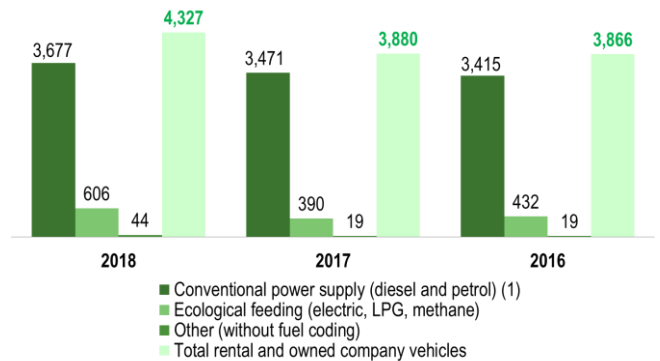
#### OTHER INITIATIVES

**LED lighting:** this involves the installation of new public street lighting fixtures and traffic lights with LED technology. In 2018, the initiative allowed savings of approximately 10,000 tonnes of CO<sub>2</sub> (see page 76).

## MOBILITY MANAGEMENT

The Group is committed to reducing the atmospheric emissions from the use of vehicles through the systematic renewal of the vehicle fleet and the promotion of initiatives for employees.

#### COMPANY VEHICLES AS AT 31/12/2018 (NO.)



<sup>(1)</sup> Over 50% of diesel vehicles belong to Euro 5 and 6 categories.

Company vehicles: atmospheric emissions (t) <sup>(1)</sup>	2018	2017	2016
Atmospheric emissions of NO <sub>x</sub>	45.01	66.13	64.25
Atmospheric emissions of VOC	1.78	2.08	2.21
Atmospheric emissions of CO	13.95	25.87	27.41
Atmospheric emissions of PM10	2.58	3.80	3.73
Atmospheric emissions of CO <sub>2</sub>	11,204.85	13,991.34	13,342.58

<sup>(1)</sup> The emissions are calculated multiplying the km travelled by the vehicles (broken down into different Euro categories, type of fuel and vehicle) by the more recent emission coefficients of NO<sub>x</sub>, VOC, CO, PM10, CO<sub>2</sub> (source INEMAR- ARPA Lombardia 2018). Travel distance data were taken from the management software in use. The distances are measured using the final data of the files of the companies supplying the fuel with relevant controls on evident anomalies.

In 2018, a significant reduction in atmospheric emissions for all main pollutants was recorded. This result was possible due to the continued replacement of obsolete vehicles and those below Euro 4 with Euro 6 category diesel vehicles, as well as the choice of vehicles with lower emissions and less power and engine capacity than the previous ones. The management of vehicles is performed pursuant to the corporate guidelines that define levels of safety, maximum distances travelled and levels of replacement in relation to total distances travelled, the age of the vehicle and level of wear and tear, together with the changing operating needs or the management synergies between the different areas of operation. In order to improve safety, reduce emissions and optimise the use of the vehicle fleet, an additional 10 vehicles were purchased to increase the fleet dedicated to long-distance trips, which feature advanced safety systems and assisted driving.

The Business Plan to 2023 displays a drive towards the adoption of fully electrical vehicles, via the launch of the IrenGO project that provides for the purchase of 760 electric vehicles over the course of the Plan and the installation of 300 recharging stations (columns and wall boxes) at company sites. At the end of 2018, 91 vehicles were already on the road, while there were 52 operational recharging points. Additionally, a car pooling service is being developed with 25 electric city cars, 10 of which have been available since the end of 2018, and 15 e-bikes located at the main company offices. In addition to being used for business trips, these vehicles are also available for the personal use of employees at weekends. The new vehicles will help to improve the air quality in the urban environments in which they work every day.

The IrenGO project, which became operational towards the end of 2018, has allowed 52 t of CO<sub>2</sub> to be avoided.



Furthermore, the Group promotes initiatives for employees, aimed at encouraging the use of public transport and alternative transport methods to arrive at the workplace:

- it is possible for employees working in Genoa to purchase passes for public transport at discounted prices and also on instalments, while in Turin it is possible to purchase public transport passes on instalments charged on their salary;
  - the “Ecoviaggio Smart” project, which offers employees the possibility of organising transfers and business trips through car sharing (“I like sharing”), using an app available on both the company Intranet and smartphone. In 2018 the project allowed savings of around 33 t of CO<sub>2</sub>, equivalent to approximately 14 TOE;
  - telecommuting employees reduced their home-work commutes by almost 370,670 km, with savings of around 56 t of CO<sub>2</sub>, equivalent to around 26 TOE.
- Furthermore, a 6-month smart working pilot project has been launched, the actual benefits of which will be measured upon its conclusion, also in terms of lower environmental impact.

With a view to reducing the number of business trips as much as possible, the Group is increasingly focusing on the use of tools like online self-learning courses that can be accessed from personal computers, as well as meetings and events organised through virtual rooms and/or video conferences.

*The Ecoviaggio project, telecommuting and IrenGO have led to over 140 t of CO<sub>2</sub> being avoided*



## INTEGRATED WATER SERVICE

### WATER PRODUCTION AND DISTRIBUTION

The procurement of water for the distribution of drinking water is carried out in accordance with effectiveness and efficiency criteria, as well as in compliance with regulations and concessions. The criteria for the use of the resources take account of a complex series of factors (authorised quantities, the size of the reserves in

the main reservoirs, the quality of the surface water, the hydrological features of the basins, the data relating to the previous year and data relating to the current year).

Modern automation and remote control devices optimise the operation of the water capture, treatment and pumping systems.

The total volume of water supplied to the network in 2018 amounted to almost 293 million m<sup>3</sup>, up compared to the previous year.

Water fed into the network (thousands of m <sup>3</sup> )	2018	2017	2016
Piacenza	32,122	32,857	33,154
Parma	38,024	40,178	42,872
Reggio Emilia	44,982	44,827	43,088
Vercelli <sup>(1)</sup>	8,819	8,446	5,751
Genoa	99,045	102,231	102,940
Savona	19,752	20,093	20,628
Imperia	3,515	3,927	3,734
La Spezia <sup>(2)</sup>	30,865	911	940
Other provinces <sup>(3)</sup>	15,826	N/A	N/A
<b>TOTAL</b>	<b>292,950</b>	<b>253,470</b>	<b>253,107</b>

<sup>(1)</sup> 2017 does not show the figure for the Municipality of Lamporo.

<sup>(2)</sup> The difference compared to previous years is due to the entry of ACAM Acque within the perimeter.

<sup>(3)</sup> The item relates to the Municipalities of the Provinces of Alessandria, Asti, Aosta, Cuneo, Mantua, Novara, Brescia, Pavia and Verona.

The percentage of network leaks stands at 34.8% compared to the national average of 40.7% (last figure available: 2017 Water Management Report of the Politecnico Milano University). The increase in leaks compared to the previous year is largely due to the change in the Group’s scope.

### DIVISION OF THE NETWORKS INTO DISTRICTS

To reduce leaks on the water networks, the Group has launched a “division into districts” project for the networks. This is a technique that involves dividing the networks into small, equal areas, the districts, which allow daily monitoring and constant analysis of hydraulic parameters. In this way, the instrumental campaigns that search for leaks are accurate and targeted only at the districts where monitoring has revealed hidden leaks. Currently, 46% of the total network is divided into districts and by 2023 is expected to reach a coverage of about 85% of the network served. The division into districts also produces benefits in terms of energy consumption reduction: in 2018, it allowed savings of approximately 400 TOE.

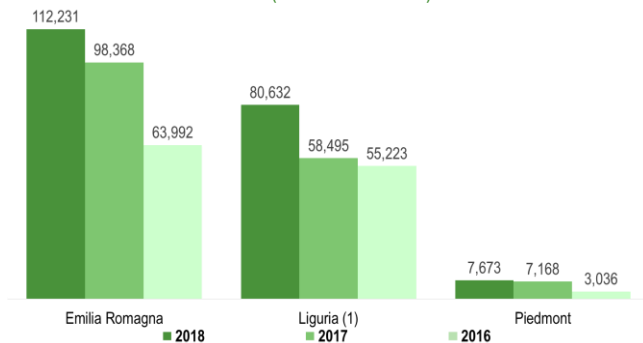
### SEWERAGE AND THE QUALITY OF WATER TREATMENT

Urban waste water from public sewers is treated at over 1,300 treatment plants of various types and capacities. Pretreatment to remove large particles, sand and oils, and primary treatment to remove sedimentation solids, takes place in the main plants, as well as traditional secondary and tertiary treatments to remove nitrogen.



The Group also manages some phyto-treatment plants which exploit the plants' ability to absorb contaminants and these systems are used both to treat sewage (subsurface flow system) and to purify water treated in traditional treatment plants (surface-flow systems).

#### WASTE WATER TREATED (thousands of m<sup>3</sup>)



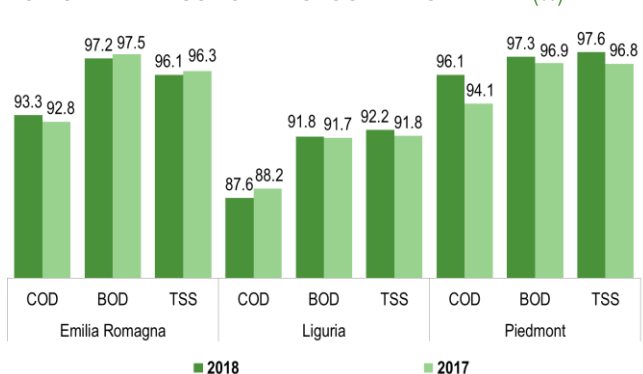
(1) For Liguria, the Group does not handle the sewage and treatment service in the Savona area. In 2018, the figure includes ACAM Acque.

The 22% increase in waste water treated is mainly due to the acquisition of the La Spezia treatment plants in the Liguria area, and to the different weather conditions recorded compared to the previous year in the Emilia Romagna area, which were characterised by drought.

All Group treatment plants with a flow rate of over 2,000 equivalent residents served were considered for volumes of water treated and for calculating the pollutant reduction.

The performance of treatment plants in 2018 are given in the table below.

#### POLLUTANT REDUCTION BY GEOGRAPHICAL AREA (%)<sup>(1)</sup>



(1) The data for 2017 in the Liguria Area were restated.

*1,323 treatment plants managed by the Group contribute to improving the conditions of rivers, torrents and seas*

#### WATER BODIES RECEIVING TREATED WASTE WATER

All the water bodies receiving waste water treated by the Group in the Emilia and Piedmont areas lie in the basin of the Po River. The land lies in an area deemed sensitive and so the plants, depending on their size, are subject to the application of the strictest nitrogen

and phosphorus limits. The waste water treated by the treatment plants situated in the city of Genoa is drained into the sea off the coast of the Ligurian Sea (mainly the Gulf of Genoa, Gulf of Tigullio and the Gulf of La Spezia).



## ENVIRONMENTAL SERVICES

### WASTE COLLECTION

In 2018, Iren Group managed the urban waste collection service in 165 Municipalities in the provinces of La Spezia, Parma, Piacenza, Reggio Emilia, Turin and Vercelli, serving over 2.3 million inhabitants in which over 1.3 million tonnes of urban waste was managed.

### SEPARATED WASTE COLLECTION

Of the 1,346,488 tonnes of urban waste collected, 865,365 tonnes were separated waste.

The implementation of the door-to-door collection service continued across the entire area, alongside the traditional roadside collection systems, and allowed for this important result to be achieved.

In the system provided for residents to increase results from separated waste collection, of particular importance is the presence of 154 Waste Collection Points where it is possible to freely deposit waste in large containers.

The range of services is completed by the domestic collection of bulk waste and the services for companies operating in this field.

The waste, once it has been separated and collected, is sent for recovery through specialised platforms and industry sectors on the basis of agreements made between Iren Group and the members of Conai (National Packaging Consortium), or private operators if the materials are different from those managed by the members of the consortium.

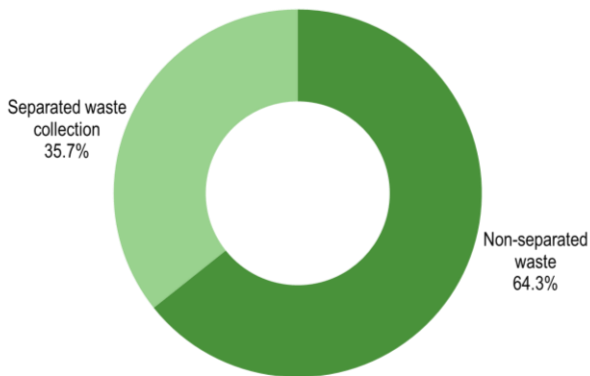
The separated fraction of waste is treated in several different ways in order to make the most of it as a resource and to reduce the amounts destined for waste-to-energy conversion and disposal in landfills.

In 2018, 865,365 tonnes of separated waste were collected

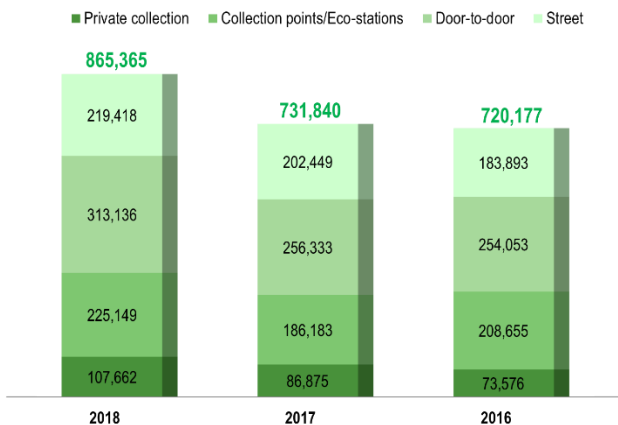
The percentages of separated waste collection achieved in 2018 show a positive trend across all areas:

- in the **Province of Parma** the results on the Municipalities served went from 78.4% in 2017 to **79.2% in 2018**;
- in the **province of Piacenza** there was a significant improvement: from 59% in 2017 to **67.3% in 2018**;
- in the **Province of Reggio Emilia** the figure rose considerably from 69.8% in 2017 to **74.8% in 2018**;
- **Turin** went from 44.3% in 2017 to **45.6% in 2018**;
- the Municipalities served in the **province of Vercelli** recorded a slight increase, from 67.2% in 2017 to **67.6% in 2018**;
- the province of **La Spezia** stood at **69.9%**.

The average of separated waste collection across the area served by the Group was up compared to the previous year, reaching 64.3%, against the national average of 55.5%, a figure that is very close to the target of 65% set for 2035 by the European Union's Circular Economy Package. In line with the directives of the sector and the local programmes (Environment Plans, Provincial Waste Management Plan, etc.), the Group has confirmed in its Business Plan its commitment to achieving a further increase in the percentage of separated waste collection, through the continuous development of the home collection services and the exact pricing systems, aiming at an even greater promotion of environmental awareness among citizens, and sending 100% of urban waste collected to be recovered as material or energy.



#### WASTE FROM SEPARATED WASTE COLLECTION BY METHOD (t)



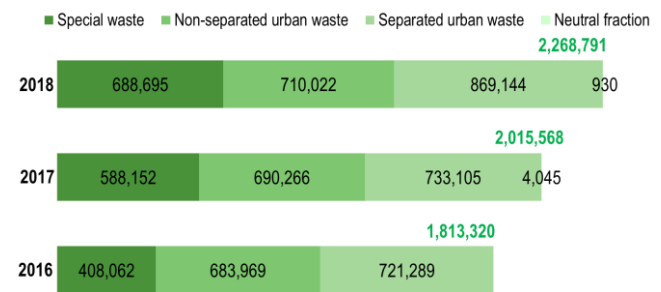
## WASTE TREATMENT AND DISPOSAL

In order to guarantee an effective management of the entire cycle, Iren Group is also committed to the treatment and disposal of waste, the recovery of material and the exploitation of the resource waste for the generation of electricity, heat and biogas through:

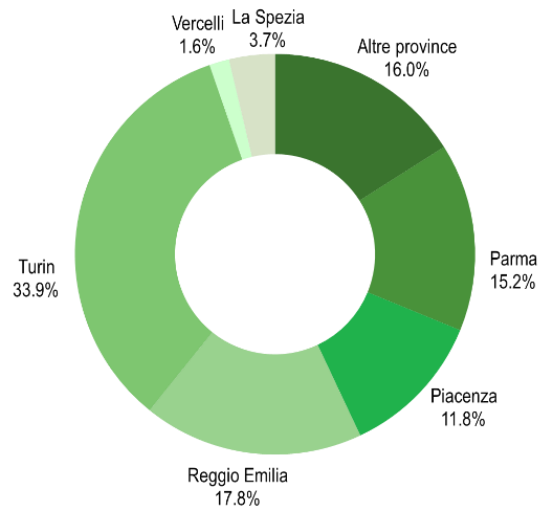
- 19 treatment, recovery, selection and storage plants;
- 3 waste-to-energy plants;
- 4 chemical, physical and biological treatment plants;
- 1 treatment plant for soil from street sweeping;
- 1 WEEE recovery treatment plant;
- 1 compost plant;
- 1 SSF production plant;
- 2 operating landfills.

In 2018, a total of 2,268,791 tonnes of waste were managed.

#### WASTE MANAGED (t)



#### WASTE MANAGED BY AREA (%)



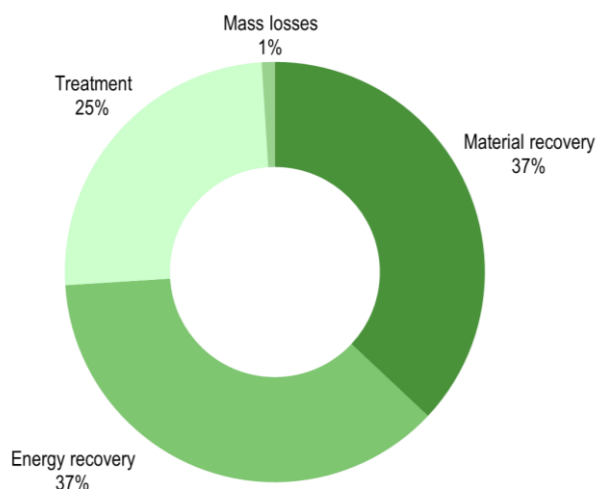
The separated waste can be sent direct for recovery or via the Group's storage plants or points where it is sorted and/or treated before reaching its final destination.

The non-separated waste collected is disposed of in several different ways in order to make the most of the waste as a resource, with the waste-to-energy process seen as the most environmentally effective solution for energy recovery.

The Group has also structured some plants for the preventive mechanical sorting process with the goal of intercepting a wet

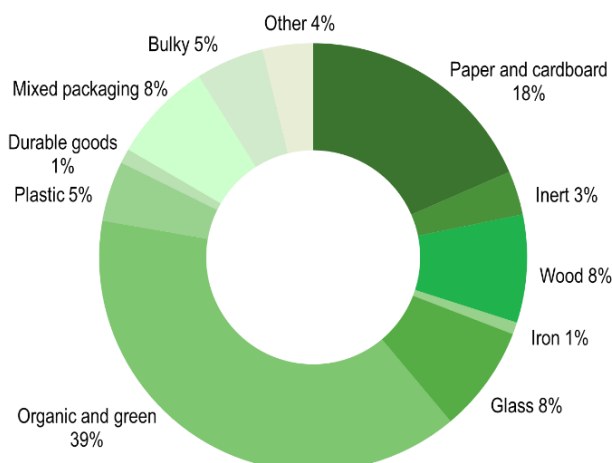
fraction of waste that is rich in organic material can be stabilised biologically.

#### WASTE MANAGED BY TREATMENT METHOD (%)



In 2018, 37% of waste managed was sent to recovery chains, depending on their type.

#### WASTE SENT FOR RECOVERY BY TYPE (%)



## ENERGY PRODUCTION AND SERVICES

### RENEWABLE AND SIMILAR SOURCES

The Group's power production plants mainly consist of hydroelectric and photovoltaic plants that use renewable sources and cogeneration thermoelectric plants that produce energy via combined cycles, which are some of the most efficient technologies currently available on the market. Furthermore, cogeneration is connected to the urban district heating network, which, compared to traditional heating systems, allows for reductions in energy consumption and improves environmental performance.

In 2018, Iren acquired control of the photovoltaic plants of Iren Rinnovabili, going from a production of 185 MWh in 2017 to over 20,000 MWh in 2018. This type of plant represents an important asset considering the Group's commitment to producing clean energy.

In 2018, hydroelectric production increased by 32.8%, due to the expansion of the Group's plants: in fact, the hydroelectric plant in Baiso (7,600 MWh produced) and the three plants in Val Maira (4,250 MWh produced) were acquired.

In total, almost 87% of energy production (compared to the national average of 35%) is powered by renewable sources (hydro or solar) or integrated (cogeneration).

The waste-to-energy plants in Parma, Piacenza and Turin produced 566,551 MWh of electricity in 2018.

The Iren Group's virtuous production processes result in significant energy savings and, subsequently, avoided CO<sub>2</sub> emissions, which amounted to 2,451,197 tonnes in 2018.

*Producing energy from hydroelectric, photovoltaic and cogeneration plants reduces environmental impact*

In 2018, the Group also launched and implemented several important projects for more sustainable energy production.

Project	Description
<b>Hydroelectric</b>	
Noasca (Turin) plant	New 1.2 MW plant, due to the reactivation of a plant built in the 1920s and decommissioned in the 1960s. The authorisation procedure is being completed (Italian Legislative Decree 387/2003). Expected production is approximately 3 GWh/year and will be subject to an application to obtain the incentives provided for renewable sources.
Giffoni plant (Salerno)	Reactivation of a 0.5 MW plant. Expected production is approximately 2 GWh/year and will benefit from the incentives provided for renewable sources. The preliminary proceedings are under way to obtain a hydroelectric concession.
San Mauro weir (Turin)	Installation of a 1 MW generator set and the construction of the upstream ladder for fish. In 2018, a feasibility study continued on the energy usage of the minimum vital flow (MVF) on the weir's cascade.



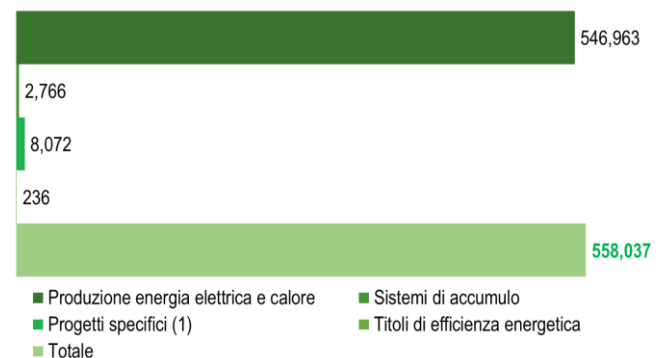
Project	Description
<b>Cogeneration and district heating</b>	
Saturation of the Turin network	The connection of 8 million cubic metres by 2022, which will take the Turin area to a total volume of 64 million cubic metres and lead to the saturation of district heating system capacity. In 2018, approximately 1.1 million cubic metres of volume was connected and 5.2 km of network was laid.
Torino Nord extension phase 1	The connection of approximately 5 million cubic meters of district heating volume. Phase 1 (2017-2020) will lead to the saturation of the residual capacity of the district heating system, through the optimisation of the storage systems. In 2018, 132,202 million cubic metres were connected and 1.4 km of network was laid.
Torino San Salvario	The extension of the district heating network and the authorisation procedure to construct a new heat storage system which will allow around 2.5 million cubic metres to be connected. In 2018, 1.3 km of network was laid in total.
Turin waste-to-energy plant for district heating	The connection of the Turin waste-to-energy plant to the district heating networks of Grugliasco and Beinasco. In 2018, works began and 1.16 km of network was laid.
Beinasco district heating	The supply of the Beinasco district heating network via the connection to the Turin waste-to-energy plant and the interconnection with the Turin network, without the need for new production plants. It is planned to connect approximately 500,000 cubic metres. In 2018, approximately 3 km of network was laid.
Piacenza waste-to-energy plant for district heating	The connection of the Piacenza district heating network with the waste-to-energy plant. There will be an increase in connected volumes of approximately 1 million cubic metres. In 2018, 3.3 km of network was laid.



## EFFICIENCY AND ENERGY SAVING

The efficient use of energy and energy savings are some of the main objectives of Iren Group Business Plan to 2023, which are pursued across all the Business Units, with increasing efficiency in processes and services, and the formulation of solutions to guarantee stakeholders a reduction in energy consumption, via the use of technological systems, monitoring and advising on proper consumption behaviour. The Energy Business Unit carries out a similar activity within the Group to manage consumption along the production chain and monitor the targets set out in the Energy Budget.

### TOTAL ENERGY SAVINGS IN 2018 (TOE)



(1) In addition to the energy saving projects described on page 75, savings from the division of the networks into districts, public water dispensers, the Ecoviaggio project and telecommuting are included.

## ENERGY SAVING FROM PRODUCTION

Energy production and saving <sup>(1) (2)</sup>	unit of measure	2018	2017	2016
<b>Production from hydroelectric and photovoltaic plants</b>				
Electricity produced	GWh	1,528	1,136	1,259
Energy saved	TOE/000	264	200	227
Energy saved	GJ	11,068,510	8,370,190	9,515,456
<b>Production from cogeneration plants, boilers and thermoelectric plants</b>				
Electricity produced	GWh	6,875	7,287	7,345
Thermal energy produced	GWh	2,799	2,865	2,738
Energy saved	TOE/000	220	283	305
Energy saved	GJ	9,195,890	11,860,704	12,752,370
<b>Production from waste-to-energy plants and landfills</b>				
Electricity produced	GWh	599	610	500
Thermal energy produced	GWh	133	131	130
Energy saved	TOE/000	62	63	58
Energy saved	GJ	2,589,899	2,647,945	4,044,194
<b>Biogas plant production</b>				
Electricity produced	GWh	0.03	0.25	0.96
Energy saved	TOE/000	0.9	1.24	1.57
Energy saved	GJ	41,002	51,741	65,775

<sup>(1)</sup> The figures are calculated according to the following criteria:

- for cogeneration, boilers and thermoelectric plants, the comparison between gross production and actual fuel consumption of the Group with the consumption that the national electricity grid and the "national average" heat production system would have recorded to produce the same quantities of electricity and heat;
- for hydroelectric and photovoltaic energy production, the calculation was based on the assumption that there was zero fuel consumption and compared the consumption recorded by the national electricity grid for the production of the same quantities of electricity;
- for waste-to-energy plants and landfills, the amount of electricity and thermal energy production (for the Parma IEC the conversion coefficient for thermal energy to electricity is 6.88) is multiplied by the electricity coefficient (187 TOE/GWh);
- for biogas plants, by multiplying the cubic metres of natural gas produced (60% of biogas) by the SCM/TOE conversion factor 0.836.

In some cases, the energy saved may increase/decrease in a manner that is not directly proportional to the increase/decrease in production, due to an increase of the specific consumptions used for calculations.

<sup>(2)</sup> Energy saved is also expressed in GJ by using a conversion factor of 1 TOE = 41.86 GJ.

## ENERGY EFFICIENCY PROJECTS

In terms of **energy saving**, the Group has developed projects that generate positive external impacts, via the savings obtained by residents and customers, and others that affect the energy savings of plants and company sites. The projects are described in the table below.

*Through projects launched in 2018, Iren Group achieved an energy savings of over 6,200 TOE/year*

Project	Description	Savings obtained
<b>External impacts</b>		
<b>Intelligent thermostat</b>	The sale of thermostats for the energy efficiency of the home that ensure the boiler is only on for the minimum time required to maintain the desired temperature. Energy savings are calculated by estimating average gas consumption per household and applying a 25% reduction in consumption deriving from the intelligent thermostat.	50 TOE
<b>Iren Energia Solare photovoltaic plants</b>	Design, construction and installation of turnkey solar panels for customers. The energy produced by the solar panels is clean and sustainable and, thanks to the storage system, can be stored and used only when needed. The energy saving is calculated on the basis of an estimate of the kWh produced by the photovoltaic plants sold.	12 TOE
<b>Technological redevelopment of municipal buildings</b>	"Revamping 3-2018": redevelopment interventions on around 100 heating systems of buildings in the Municipality of Turin. During the 2017-2018 heating season, a saving of about 1,320,000 m <sup>3</sup> of gas were measured, equivalent to approximately 1,130 TOE/year.	1,130 TOE



Project	Description	Savings obtained
<b>LED public street lighting</b>	Replacement of approximately 53,000 lights with new LED lamps in Turin ("Torino LED"). In 2018, 3,000 energy efficiency certificates were obtained, equivalent to 3,000 TOE. The savings are calculated by considering the hours the lights are on and comparing the installed lighting fixtures ex ante with those ex post. The project is also currently being extended to other Municipalities (Gaglianico and Candelo) and the management of the Fidenza plant began at the end of 2018.	3,000 TOE
<b>Thermostatic valves and heat allocators</b>	The installation of over 350 thermostatic valves and heat allocators in apartment buildings, which reduce consumption in the individual apartments. The savings are calculated on the basis of the historical data of the apartment buildings, compared with pre and post-intervention consumption.	5 TOE
<b>Domestic heat management</b>	The replacement of traditional and diesel boilers with high-efficiency condensing boilers in 290 heating plants in the same amount of apartment buildings. The savings are calculated using the rating of the obsolete boiler compared to the high-efficiency boiler, as well as measurements taken before and after installation, under the same conditions of use and weather.	1,480 TOE
<b>Internal impacts</b>		
<b>Energy efficiency of production plants</b>	Improvement of the energy efficiency of some hydroelectric and thermoelectric production plants via: the installation of electricity consumption monitoring systems, the replacement of lighting fixtures with LED lights, the installation of voltage stabiliser switchgears and the replacement of boilers with district heating systems for the pre-heating of natural gas.	380 TOE
<b>UNI EN ISO 50001 Certification</b>	Start of the UNI EN ISO 50001 (Energy Management System) certification process for Iren Energia. When fully operational, the energy savings will amount to 13,000 TOE per year (1% compared to the 1.3 million TOE of primary energy consumption in 2017).	1 TOE
<b>Energy efficiency of the waste-to-energy plant</b>	The installation of a new compressed-air drying system at the Piacenza waste-to-energy plant in order to reduce waste and subsequently lower the electrical consumption of the compressor units. The project expects to achieve savings totalling in approximately 325,600 kWh/year. In 2018, 320,000 kWh was saved, equivalent to 60 TOE. Improvement of the boiler regulation system and of the heat exchangers at the Parma waste-to-energy plant to optimise the heat flows of the district heating system and the consumption of methane gas. The project expects to achieve annual savings of approximately 172,200 SCM. In 2018, 164,787 SCM were saved, equivalent to 138 TOE.	198 TOE
<b>Energy efficiency of the Vercelli plants</b>	The implementation of two energy efficiency projects at certain ASM Vercelli plants: the first, a trial project, concerns the conversion of the biological treatment department of the Saluggia treatment plant via the application of an "alternating cycles" technique; the second project concerns the replacement of the pumps of the pumping plants with highly-efficient motors. The projects began at the end of 2018 and the energy savings can be calculated at the end of 2019.	-

## ENERGY EFFICIENCY CERTIFICATES (EEC)

Thanks to the high-efficiency cogeneration plant of Torino Nord, 100,675 energy efficiency certificates (EEC) were obtained in 2018 (equivalent to an equal amount of TOE of energy savings). Furthermore, Iren Group has implemented various projects which resulted in 236 EECs in 2018. The requirement to produce (or purchase on the market) and supply energy efficient certificates to the GSE (Electricity Services Provider) is the sole responsibility of Ireti (distributor) and is valid for 2018 (with maturity 31 May 2019).

*In 2018, Iren Group obtained energy efficiency certificates equivalent to 100,911 TOE*

## ENERGY SAVING INCENTIVES

Green Certificates were replaced by equivalent incentives which, in 2018, Iren Group matured in the amounts indicated in the table below.

Incentives by plant type (no.)	2018
<b>Hydroelectric</b>	<b>696,900</b>
Bardonetto	27,590
Pont Ventoux	273,250
Villa	1,802
Telessio - Eugio - Ceresole - Rosone	315,514
Brugneto	2,251
Tanagro	30,461
Bussento	46,032
<b>Waste-to-energy plants (TRM)</b>	<b>207,904</b>
<b>Landfills</b>	<b>16,851</b>
Poiatica	515
Basse di Stura	16,336
<b>TOTAL</b>	<b>921,655</b>

# BIODIVERSITY

The continuing deterioration of natural habitats and the threats to certain species are among the main issues considered by the European Union in its environmental policy that attempts to ensure biodiversity through the conservation of natural and semi-natural habitats and of wild flora and fauna within the territory of member states. For this purpose, a protected area called "Natura 2000" was created at the European level, which also involves various territories and areas of Italian Regions. In addition to almost uncontaminated natural habitats, the Network also includes environments transformed by humans that represent important areas for the survival of many animal and plant species. Protection of the "Natura 2000" Sites is mandatory (Italian Presidential Decree 357/97 "Regulation implementing Directive 92/43/EEC on the conservation of natural and semi-natural habitats, as well as wild fauna and flora" and Italian Presidential Decree 120/2003). The law states that the territorial planning and scheduling must take into account the naturalistic-environmental importance of the Sites of Community Importance (SCI) and the Special Protection Areas (SPA) and that any plan or project, internal or external to the sites, which could in any way affect the conservation of habitats or species that have been identified as protected should be subjected to an appropriate impact assessment for the affected sites. Prior to the implementation stage of new measures, the development of new networks and significant maintenance activities (revamping/repowering), which may lead to environmental impacts for the "Natura 2000" protected areas, they must be submitted for prior assessment in order to protect the areas. It is also necessary to verify that machinery, plants and equipment subject to the measures possess the environmental requirements necessary and to assess the potential impacts resulting from the use of hazardous substances and the adoption of appropriate management measures. In particular, the Impact Assessment (Italian Presidential Decree 357/1997, Article 5) is the procedure that is implemented in cases where a measure may significantly affect a site identified as an SCI or SPA within the "Natura 2000" network. The Italian Ministry of the Environment, with its decrees, publishes the lists of Italian SCIs. As the construction of the "Natura 2000" Network is an ongoing process, the SCI lists are updated once a year on the basis of the databases submitted by Member States. For Italy, the SCIs become official upon the transmission to the European Commission national databases.

## ACTIVITIES IN PROTECTED AREAS OR AREAS OF ENVIRONMENTAL INTEREST

**Electricity production** activities carried out by the Group in protected areas relate mainly to hydroelectric plants and their impact on water sources and on noise. Water withdrawals and releases are managed in accordance with the Concessions issued by the Competent Authorities and the legislation in force. For all managed reservoirs, Management Plans (pursuant to Italian

Ministerial Decree 152) were prepared with the relative impact assessments for those that involve SCI areas. The main water sources involved in water withdrawals at the Group's production plants are the Ligurian Sea, the Po River, the Naviglio Grande canal and withdrawals from groundwater through wells for industrial use. The complete framework of withdrawn water (dams and weirs) for the production of hydroelectric energy concerns the Valle Orco, the Valle Dora, the Po River, the province of Salerno, and the provinces of Avellino, Canate, Brugneto, Baiso and Acceglio. Water discharges flow into the Ligurian Sea, the basin of the Po, Ticino, Dora Riparia and Secchia Rivers, Lake Pian Telesio in Piedmont, the Chisola and Piantonetto streams, and the Naviglio Grande canal in Lombardy. All discharges, authorised and in compliance with the law, are made up of cooling water from the plants or water from the treatment processes of the water used in production sites. The measures to improve efficiency of hydroelectric plants, carried out by the Group in the past, had positive repercussions on the entire system, as they reduce the need to produce energy from fossil sources and help to reduce atmospheric emissions. For all the redevelopment work carried out, the plant IAFR certification (certifying that it is powered by renewable sources) was obtained, which identifies the environmental benefits expected in terms of reductions in SO<sub>2</sub>, CO<sub>2</sub>, NO<sub>x</sub>, particulate and natural gas emissions. In relation to the acoustic impact, all plants are soundproofed appropriately to minimise the impact on the surrounding area.

The development of the **electricity distribution network** in the city of Turin may directly involve or be in the immediate vicinity of various areas of the "Nature 2000" network, including: Collina di Superga (SCI), Meisino (SPA) and Stupinigi (SCI). The electricity distribution network of Parma does not affect SCIs or SPAs in the "Natura 2000" network.

**Waste management and environmental health** activities that the Group carries out do not affect protected areas in the Emilia area. Plants with greater capacity (waste-to-energy plants and landfills) are equipped with a green system, in harmony with the vegetation climax in which they are situated, with visual and environmental mitigation functions. Every year, the impacts related to the activities carried out at the sites are examined with the aim of verifying the results of the measures carried out and having available all the elements necessary to confirm/modify the implemented system, so as to assess compliance with the laws and authorisations required by environmental regulations and to verify the state of progress and define/update improvement plans for management systems, including those related to environmental performance. The **Parma Integrated Environmental Centre (IEC)** operates in a largely industrial area and has a "green system" that, in addition to complying with the mitigation of particulates, also plays an ecological role, restoring some habitats and acting as an ecological bridge between different biotypes that will lead to the creation of a surface ecosystem that could be an important resource for the overall recovery of the landscape and ecological value of the area. Every year, a monitoring campaign is carried out on the content of the particulates collected from the plants based at the IEC, in order to estimate the environmental benefits in terms of the atmospheric particulate matter removed. The area of the **Piacenza waste-to-energy plant** is not subject to any urban, landscape, hydro-



geological, seismic or territorial restrictions and there are no protected parks, oases or other areas protected by law. The **Turin waste-to-energy plant (TRM)** obtained a positive environmental compatibility assessment via a process that included an Environmental Impact Study, the conclusions of which, in terms of vegetation, flora, fauna and ecosystems, demonstrated that the site is located within a highly developed area where no specific natural value has been detected in regard to vegetation and wildlife. Despite being in the middle of an EIA phase, the introduction of the waste-to-energy plant does not indicate the appearance of significant symptoms of stress on the ecosystems that already suffer from human impact; the emissions do not cause any harm to the local fauna present across a vast area, including areas of special natural interest represented by Stupinigi Natural Park and System of Protected Areas of the Po area region.

Activities concerning the **gas distribution** service do not have particular impacts on biodiversity. For the activities of construction, maintenance and operation of the infrastructure, we rigorously comply with the regulatory framework relevant to environmental impact.

Regarding the **integrated water service**, all the water bodies receiving waste water treated by the Group in Emilia lie at the basin of the Po River. The land lies within an area deemed sensitive so the plants, depending on their size, are subject to the application of the strictest nitrogen and phosphorus limits. The waste water treated by the treatment plants situated in the Liguria area is drained into the Ligurian sea from the coast (mainly the Gulf of Genoa, the Gulf of Tigullio and, since April 2018, the Gulf of La Spezia). By nature, the activities conducted are aimed at maintaining optimal environmental conditions. Specifically, protecting the areas in which sources of water withdrawal are found is of the utmost importance for the management of the integrated water service. Likewise, the main objective of the treatment activity is to ensure that discharges are appropriately treated so that they are compatible with the natural habitats of the receiving bodies of water. In 2018, the improvement in the environmental conditions at the mouth of the Polcevera Stream (Genoa) were confirmed, due to an intervention carried out in 2017 (the discharge of urban waste water that used to flow into the stream was channelled into a pipeline that allowed for discharge into the open sea, beyond the sea wall of the port, at the depths and distances provided for by law). Screening and environmental impact assessments are carried out as required by applicable law, for treatment plants and the withdrawal of water.

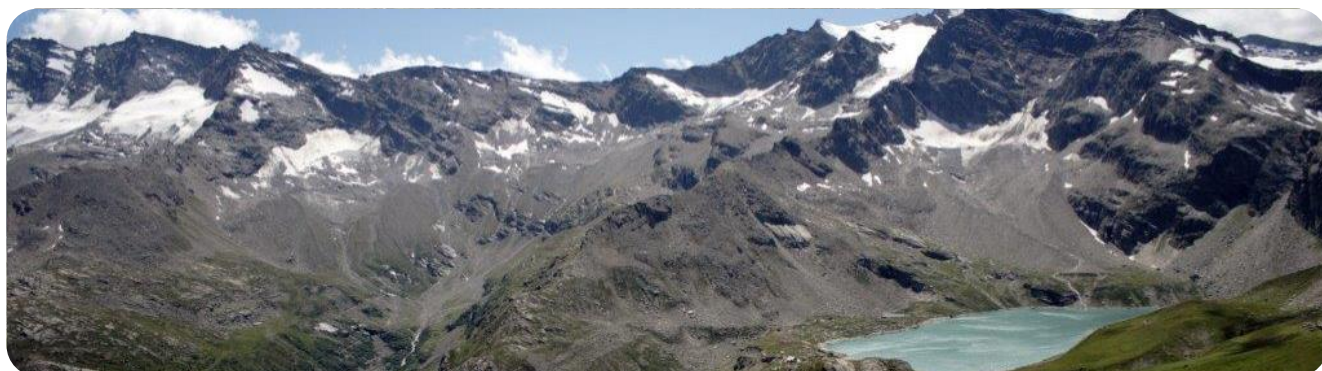
The Genoese plants of the Brugnato Dam lie within Antola Regional Park (Genoa), while the Gorzente lakes lie within the Regional Park of Capanne di Marcarolo, partly within the Province of Alessandria. In the Province of Piacenza, the Group owns a lowland forest within the protected area of Conoide del Nure and Bosco di Fornace Vecchia (SCI). The treatment plants managed in the province of La Spezia are located near the Cinque Terre National Park/Cinque Terre Marine Protected Area, the Porto Venere Regional Nature Park, the Regional Nature Park of Montemarcello-Magra-Vara and the Regional "Islands of Portovenere" Marine Protection area.

No natural habitats were offset during the reporting period.

## MAIN AREAS AND SPECIES PROTECTED

Iren Group constantly collaborates with the Management Bodies of the protected areas in which it works to safeguard the ecosystem and protected species.

The map shows the main Sites of Community Importance and Special Protection Areas where plants and/or networks managed by the Iren group are located. There are around 280 protected species listed in the national and international IUCN Red Lists (of those mentioned in the documentation available online). Around 25% of these species fall under the following IUCN List categories: regional extinction (RE), vulnerable (VU), endangered (EN), critical risk (CR) and nearly threatened (NT).





## COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS AND REPORTING MECHANISMS

The Iren Group adopts an Environmental Management System in compliance with ISO 14001: all employees are required, as part of their duties, to participate in the process of risk prevention, protection of the environment and of their own, and that of their colleagues and third parties, health and safety. Iren activities are managed in compliance with the regulations relevant to the prevention and protection from accidents and safety at work.

For Iren, environmental protection represents a basic value in order to satisfy one of the primary needs of the individual citizen and the entire community. All of the processes are carried out in full compliance with applicable environmental legislations. Moreover, the Group contributes to the research and development of advanced technologies aimed at protecting the resources and at reducing the environmental impact of the activities and their related risks.

There are many instruments at the disposal of the stakeholders to report an environmental breach: these methods include written communications via post, e-mail, fax and social media channels. All communications are considered and sent to the competent offices, which see to the appropriate checks, and, lastly, each stakeholder receives a response in relation to their reports.

During the qualification process, suppliers are required to hold an environmental certificate or, in any case, to have taken on substantial elements interlinked with the environmental system (for more information, please see page 116).

The **production and distribution of electricity** services are certified by standards of quality and environmental management, and are, therefore, subject to internal and external audits with regard to the processes and obligations relevant to environmental legislation.

With regard to the **environmental services**, an environmental contact centre is available to residents, public authorities, etc., where it is possible to report any breaches and/or critical situations pertinent to the environment. Moreover, "Environmental Inspectors" are active in the provinces of Piacenza, Parma and Reggio Emilia, who patrol the areas of competence in order to identify illegal landfills and abandoned waste, including those hazardous to the environment (i.e. asbestos cement, spills, etc.). Reports are taken on in order to organise the verification activities and the necessary treatment for the resolution of the problems identified, pursuant to the proper procedures. Furthermore, specific procedures provide exact guidelines for operators concerning the processes to be carried out for the solution and/or limitation of any environmental emergencies that may arise during the performance of services. In addition to this type of reporting, they also provide information to residents about correct waste separating methods and the use of the collection service active in their area.

In relation to **waste-to-energy plants**, emission data are released to the control authorities in real time. These figures are public and can be viewed daily on the websites. To ensure IEA provisions on communication anomalies are adhered to, a 24-hour technician service has been established.



Regarding the **integrated water service**, the entire cycle is subject to the constant monitoring of operating parameters, including by means of remote control systems for important plants, and provides for the execution of tens of thousands of analytical laboratory calculations. The water service is also subject to controls pursuant to the law by local regulatory authorities. The optimisation of the corrective measures put in place to minimise possible negative effects of problems identified, is often carried out through the involvement of other agencies, including through specific operational protocols.



In 2018, the Group received and paid 38 fines and penalties, for a total value of around 125,000 Euro, for failure to comply with mandatory environmental laws and regulations. The penalties are mainly due to late submission of sludge certificates, lack of authorisation for the discharge of certain waste water treatment plants and exceeding the limits set out in tables for the waste water leaving plants.

## FOCUS

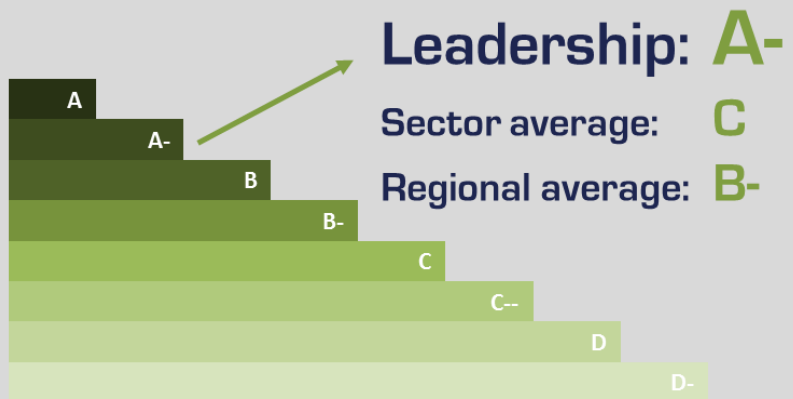


For several years, Iren Group has participated in the Carbon Disclosure Project (CDP), a survey promoted by the non-profit organisation of the same name, which independently collects, analyses and disseminates data on climate risks and low-carbon opportunities of the world's leading societies, on behalf of more than 525 institutional investors that manage total assets of 96 trillion dollars.

### CPD ANALYSIS AREAS

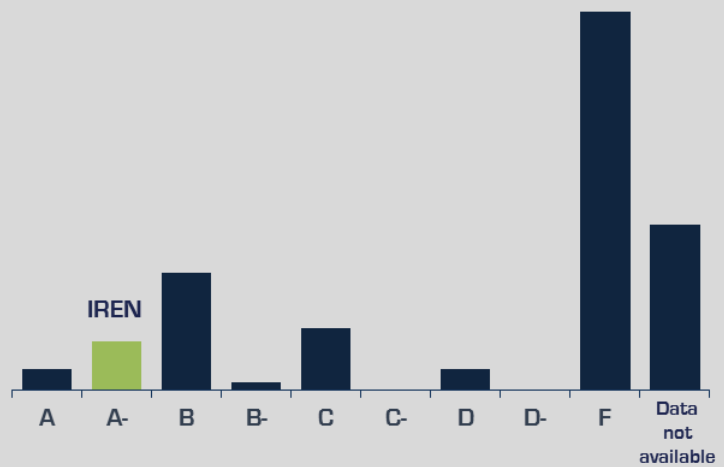
- Governance
- Risks and opportunities
- Long-term goals
- Emissions data
- Business strategies
- Energy consumption
- Carbon pricing
- Stakeholder engagement

### IREN ASSESSMENT



The assessment considers the strategies, actions and approaches in the management of climate change. Iren Group received an A- (leadership level) score, higher than the average for the Electric Utilities sector and the European regional average.

### IREN WITHIN THE ITALIAN CDP PANORAMA



# Customers



## IMPORTANT TOPICS



Efficient and reliable services



Responsible management of business segments



Marketing policies



Service levels, customer focus and changes in customer expectations



Internal and external communication



## RELATIONS WITH CUSTOMERS



## POLICIES AND PRACTICES

### BUSINESS CONDUCT

Iren Group fully complies with the guidelines of the Code of Business Conduct for the sale of electricity and natural gas to end customers, formulated by ARERA, the Italian Regulatory Authority for Energy, Networks and Environment, which regulates sales outside of commercial premises, i.e. activities conducted by door-to-door companies and at commercial stands and teleselling and webselling to promote energy contracts.

Communications to customers comply with the principles of clarity and transparency provided by the Code of Ethics and Code of Business Conduct, with the objective of placing the customer in a position to be able to make an informed choice.

Within the contractual relationship, Iren Group requires that external promotion companies (door-to-door companies, telesellers and websellers) comply with sector regulations and procedures or those identified and elaborated by the same and, more specifically, requires compliance with the Code of Business Conduct of ARERA, the Consumer Code, the Group's Code of Ethics, Iren Mercato's 231 Model and Iren Mercato's Quality Policy.

During the agency selection phase, a meticulous analysis of the requirements is carried out, including: an understanding of the local market and technical-organisational capacity; the possession of all authorisations, licences and subscriptions for pursuing the commercial agency activities (including registration on the National Register); the availability of a back office to monitor and train agents, preliminary verification of contracts acquired and the verification of customer awareness via check-calls. It is only after the formal and technical verifications have had a positive outcome that we proceed to stipulating an agency contract or a commercial collaboration contract.

All agency collaborators receive adequate training on the regulations governing the sector and the codes of conduct to adopt. The first training session for agents takes place in the presence of the Group's sales staff and is divided into different units (gas market, electricity market, offer types, code of business conduct).

The activity of the companies is monitored and controlled at various levels and in different ways depending on the type of activity performed. The control systems relevant to the activity of contract promotion are also stricter compared to sector regulations.

In order to ensure that suppliers conduct themselves properly, controls are conducted via quality calls concerning the activity carried out by the door-to-door companies to confirm contact with the agent and that the contractual agreement was signed. Alternatively, in 2018 we introduced instant call, a quality call carried out on average within 2 hours of the contract being signed, for more timely and effective control of the sales activity. With regard to telesellers and activities deriving from webselling, a third party is appointed to check customers' awareness concerning the telephone proposal accepted (welcome calls and confirmation calls). Furthermore, customers who subscribe to telephone contracts are given the option of listening to their telephone recording by accessing a dedicated section on the company website with personal login details.

Lastly, to verify that the companies work in compliance with contractual obligations and, specifically, in compliance with the company's self-regulatory documentation (Code of Ethics, Model 231, operational procedures), visits are made periodically to the sales offices, the results of which are presented and discussed at the process committee.

The organisation of Iren Mercato also provides for a specific structure dedicated to analysing customer complaints concerning external channels of sales. These complaints can result in the charging of penalties and, in more serious cases, the dismissal of the agent, with a ban on working for Iren Mercato, even through other companies, up to the possible resolution of the agency mandate.

In regard to customers and potential customers, sales and marketing activities are conducted in accordance with the principles of honesty and transparency and in full compliance with the provisions of EU Regulation 2016/679 (GDPR) and any applicable law or provision concerning personal data protection. Specifically, in order to guarantee compliance with privacy regulations:

- the processing of the personal data of customers and potential customers is guaranteed in accordance with the consents freely given and collected from them;
- the processing of the personal data of customers and/or potential customers on behalf of Iren Mercato is permitted only to persons appointed, in writing, as external data controllers (Articles 28 of the GDPR);
- commercial or promotional actions are carried out exclusively with regard to persons who have given informed consent after reading the specific privacy policy (Articles 13 and 14 of the GDPR).

Furthermore, to guarantee that data subjects can exercise their rights covered by the GDPR, communication channels and departments have been set up to receive and manage requests for access, rectification, deletion, limit processing, portability and opposition to the processing of personal data.

In compliance with the principles of anti-competitive behaviour, Iren Mercato does not conduct any commercial or promotional action

with regard to protected market customers, limiting its interventions to prospective contacts or its customers on the free market, which were acquired in accordance with the law.

## HEALTH AND SAFETY OF CUSTOMERS

Iren Group implements actions to minimise the impacts that their activities have on the health and safety of customers and the community. Below is a summary by business segment.

**Environment:** containers for waste collection comply with safety regulations for the public and Group personnel. In 2018, the replacement of the pre-Euro 4 vehicle fleet with Euro 6 vehicles continued, in order to adapt to the most recent atmospheric emission legislation. Health supervision campaigns are activated for the most environmentally critical plants: we only need to mention the waste-to-energy plant for waste in Parma, Piacenza and Turin that are equipped with specific certifications (see page 68).

**Energy and smart solutions:** the management model adopted considers the health and safety of customers, assessing environmental aspects, as well as the analysis and measurement of risks during all stages of the services supplied, from plant planning to maintenance, as well as the activation of new services and the selection, storage and disposal of materials and products that require specific certificates and targeted laboratory tests. Regarding the public street lighting and traffic light service in Turin, an app is active that citizens can use to report any faults or malfunctions in real time. In regard to the global service for the buildings in the city of Turin, there is a detailed process for reporting faults/malfunctions, call management and problem resolution, with response times for each type of event and analysis and evaluation of the service level.

**Integrated water service:** regarding the supply of drinking water, the health and safety of customers is the main priority. This aim is pursued through the constant monitoring of the water quality along the entire supply cycle, also in excess of legal obligations: catchment, treatment, disinfection and distribution.

**Gas distribution:** customer safety is the main issue concerning the management of the gas distribution service. Hiring competent and well-trained resources, together with continuous network monitoring, are elements that contribute significantly to accident prevention. These elements are subject to constant analysis and improvement measures in order to increase their effectiveness while respecting efficiency.

**Electricity distribution:** to safeguard the health of customers, initiatives are put in place to ensure compliance with electromagnetic field limits (described in detail on page 67), with particular reference to electricity substations; exact measurements on all new substations constructed are carried out, by verifying the location of the substation and electrical equipment it contains with respect to any sensitive adjacent buildings.

**District Heating:** in 2018, the Department of Environmental Engineering, the Territory and Infrastructures of the Polytechnic of Turin conducted a study to assess the consequences in terms

of the air quality of the Reggio Emilia district heating system. The assessment was conducted in comparative terms, comparing the environmental impacts of the district heating system at its actual level of development (2017), compared to a previous scenario in which there was no district heating.

The results showed a substantial reduction in the environmental impacts in the atmosphere resulting from the operation of district heating powered by co-generation plants.

The extent of this reduction, in addition to average concentrations, was calculated in economic terms: the social costs avoided as a result of negative health effects have been estimated, confirming the advantage provided by the district heating system, also from an economic perspective.

**Market:** to complete the offers to customers, the entire range of products for energy efficiency and home management and protection are verified in terms of impact on the health and safety of customers, before being launched on the market.

## COMMUNICATION AND RELATIONS WITH CUSTOMERS

In its relationships with its customers, Iren Group has transformed its role from a mere supplier to an expert in innovative energy products and related services, adopting a new model that is increasingly orientated towards dialogue and advice on consumer habits.

For this reason, the Group is pursuing the integration of physical and digital systems to guarantee a seamless customer experience that is continuous and coherent, both inside and outside of company spaces, as well as via web and mobile instruments.

In 2018, various initiatives aimed at increasing the communication channels were conducted.

**Single toll-free number for commercial services.** The telephone answering system was optimised at the beginning of 2018, with the addition of easy-to-understand messages and routes that guide customers to obtain the requested service quickly and easily, thus reducing navigation times on the telephone tree.

Over the year, the commercial call centres managed around 2,000,000 calls concerning gas, electricity and integrated water service procedures, with an average waiting time of around 102 seconds.

Over 93% of customers who contacted the call centre spoke with an operator. As a result of an increase in calls, due to the growth of the customer base, there was an improvement in quantitative KPIs (Key Performance Indicators), as well as in the qualitative CSI (Customer Satisfaction Index), in terms of politeness, clarity, waiting times, overall assessment and NPS (Net Promoter Score), with an average index of more than 8.5. This was the result of constant and continuous work on suppliers, on call predictions for more efficient organisation and on improving information sharing within the Group. This process, which began in 2017 with the introduction of the single toll-free number, continued in 2018 with the introduction of new contact channels.

**Environmental services contact centre.** The Group offers a contact centre service to provide information to customers on waste



management and collection services. In 2018, over 416,000 emails and over 116,000 web contacts were made.

Around 96% of customers who called the service spoke to an operator, with average waiting times of around 74 seconds.

**Integrated customer relationship management (CRM) system.**

The new CRM system incorporates many contact channels, thus allowing the collection, registration and management of all information related to customer interactions within a single system. It also includes the sending of proactive multichannel communications (email, text, mail), allowing customers to receive continuous updates on the progress of procedures/requests until they have been resolved, and notifications regarding supplies.

In order to facilitate customer autonomy in managing their own contracts, the CRM is integrated within the ClickIren portal, which displays self-care functions for obtaining information, resolving problems, sending meter readings and signing up to offers on the Internet and apps.

**Help desk: Iren space for customers.** In 2018, the plan to optimise the help desk channel continued, with the aim of guaranteeing efficiency and commercial repositioning, transforming a pure welcome and management channel into an instrument for strengthening the brand that is able to maximise opportunities for promoting products and services designed for the customer, while maintaining the objective of continuous improvement in service levels.

Thus the help desk has evolved to become a space for advice that favours dialogue and closeness to customers, capitalising on the human relationship as a vehicle for trust, support and specialised experience.

In 2018, the restyling of Iren spaces in Parma, Chiavari, Vercelli and Grosseto was completed and new spaces were opened in Recco and in the Sestri Ponente neighbourhood of Genoa.

*Widespread distribution across the area: a network of 73 physical locations to manage requests and provide professional advice to customers*

In 2018, Iren served more than 584,000 customers in 73 physical locations spread over the reference area and assisted customers in reading and correctly understanding bills and the impacts generated by legislation, as well as all other requests.

The increase in the number of contacts compared to 2017 is largely due to greater promotion and incentives for the flows at the territorial branches and partly due to the consolidation of the technical infrastructure that has allowed the exact tracking of all contacts.

A web help desk can also be accessed with reserved areas for different types of customers to access data and carry out contractual transactions.

Help desk activity	2018	2017	2016
Help desks (no.)	73	77	55
Customers served (no.)	584,508	429,744	273,619
Average waiting time (min.)	13.9	17.5	23.0



**Websites.** To make the irenlucegas.it site more user-friendly, the menus and contents were revised, navigation was simplified and customers are now offered more information in a clear and orderly fashion. The live chat function was optimised to offer more effective assistance when searching for information or when purchasing services and products. To obtain greater visibility on the internet, with good positioning on the main search engines, all pages of the site have been SEO optimised. Furthermore, in 2018 the Group's site system was implemented with the publication of the www.irenstoria.it portal, an open-participation project, a living archive, that can always be implemented with new documents and new sources, to render the Group's history available to the public.

**Social networks.** The Group has consolidated its presence on the main social networks, such as Facebook, Twitter, YouTube, Instagram and LinkedIn and saw a continuous increase in the number of contacts and followers. By focusing on the innovation of the customer care channels, since August 2018 a new way of interacting with customers has been made available through the "Iren Luce, Gas & Servizi" social media pages on Facebook, Twitter and Instagram.

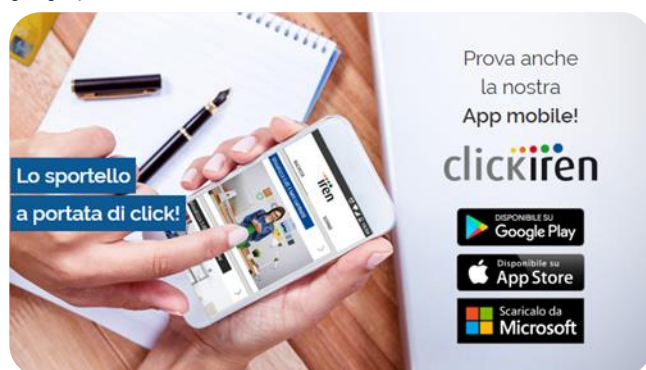
The Group offers a rapid customer service with a friendly approach via its social media channels and disseminates messages about the energy and services industry, while never disregarding aspects related to the evolution of the regulations and the Iren Luce Gas e Servizi world that goes beyond electricity and gas commodities.

**Mobile apps.** Iren Group provides two mobile apps for its customers.

*ClickIren* offers many services and the possibility to view, in one place, all of the contractual relations in force with Group companies: electricity, gas, water, urban environmental services and district heating. ClickIren can be used to activate the digital bill service and cancel the paper copy at the same time. At the end of 2018, around 325,000 customers chose to use ClickIren (+8% compared to 2017), also with the aim of monitoring their own consumption profile, for a total of 143,000 views of the bill list being recorded and 72,000 bill downloads per week.

*Ecolren:* provides the public and customers with useful information relevant to environmental services and on the local Acquapubblica distributors and, in 2018, it was extended to include the services of the municipality of Vercelli. The app also provides a photo signalling

system: photos of abandoned waste, damaged bins and other anomalous situations can be taken and sent, along with text and geographical coordinates.



**IrenCollabora.it platform.** This is a tool that was created within the context of the Iren Local Committees (in this regard see page 122), to establish an innovative channel of dialogue, discussion and participatory planning between the Iren Group and the local community stakeholders. The platform gathers ideas, proposals, comments and observations to support and launch environmental and social sustainability projects.

## COMMERCIAL ACTIVITIES

Iren Group presents its customers with a complete offer portfolio which, starting with the historic activity of the Group (sale of gas, electricity and district heating), incorporates new solutions and technologies to meet all energy management needs and the well-being of citizens, companies and local authorities.

Iren's service is characterised by an efficient sales network assisting customers, consisting of a widespread network of help desks and call centres servicing families and small businesses, as well as specialists dedicated to large companies, which are also able to support energy supply with all the consultancy and assistance activities regarding tariffs and contracts.

Iren Mercato also offers its customers certified clean electricity, ensured by the procurement of renewable sources through other Group companies.

In the Environment sector, the Group operates according to transversal logic across the areas of interest, via a network that is useful for identifying and assessing business opportunities present on the market, also outside the areas of reference (tenders of national importance).

## RETAIL CUSTOMERS

In the retail segment, commercial activities were aimed at developing customer loyalty and development in the prospective areas. In 2018, the activity conducted within the Group's reference areas was particularly significant, with a gradual homogenisation of the offer portfolio and customer services. In addition to launching new offers for the free market, in compliance with the ARERA directives, the Similar Protection and Placet offers were created.

Sales activities were consolidated via active teleselling channels and physical companies, with full attention on the monitoring and control of sales partners through quality calls and confirmation calls carried out on 100% of contractual proposals, to ensure a correct commercial approach that complies with codes of conduct and company procedures and regulations.

In 2018, the **web sales** channel, which is available in self-navigated and chat-assisted mode, grew considerably, reaching a significant share of total contracts. Furthermore, Google advertising campaigns were accompanied by SEO (Search Engine Optimisation) with the aim of improving the positioning of the irenlucegas.it site in search engine results. This has had a significant impact on sales and brand awareness: organic visits to the site have doubled and, for the first time, it has appeared on the first search page for certain keywords within the energy sector.

Iren Mercato has also strengthened its partnerships with the main energy price comparison sites, promoting its own offers and offering new services and commercial operations.

### New Downstream

In 2018, the marketing of extra-commodity products and services was consolidated with the New Downstream project which made it possible to achieve best-in-class sales figures in relation to the size of our customer base by contributing to the Group's innovative, high-quality positioning.

The development of the range of products continued with the aim of offering first-class solutions for the home that simplify the citizen's life, with a strong focus on energy efficiency, rationalisation of consumption and environmental sustainability.

The New Downstream products and services were offered via traditional sales channels (teleselling and physical companies), e-commerce, call centres and help desks, with dedicated spaces and set-ups.

In 2018, the range of products offered by the Group for **energy efficiency** and **home management and protection** grew to include a condensing boiler, an air purification system, a carbonation-refrigeration system for water and the photovoltaic plant with storage system.

For each product launched on the market, a thorough research and development phase was carried out (market research, supplier selection, logistics, definition of operational processes for tracking and transparency of each phase of the product's life cycle) and market testing was conducted before sale. This method allowed the distinctive elements of the offer to be developed, the quality of the product and any ancillary services to be verified and the production/customer chain to be controlled.

During the procurement phase, qualitative and quantitative standards were applied to define supplier selection parameters, with a specific focus on the possession of environmental and product safety certifications.

In regard to post-sales, a single assistance channel and a single network of technicians for installations, the supply of services and contractual support was chosen.



**Photovoltaic and energy saving.** The **Iren Energia Solare** project saw an increase in sales and installations in 2018, as well as the implementation of a new operating model, within which the Group actively operates from sales to post-sales, making use of a partner for the design and installation. The energy produced by the solar panels is not only completely clean and sustainable, but, thanks to the storage system, can also be stored and used only when needed. Iren Energia Solare is accompanied by the traditional supply of electricity and gas, increasingly innovative and eco-sustainable solutions thanks to two offers for customers: the “easy” package and the “top” package that includes the design, construction and installation of turnkey solar panels that help the Iren Group’s customers reduce their energy bills and CO<sub>2</sub> emissions, guiding them towards an increasingly sustainable future.

A test to **sell LED lamps** through selected tobacconists located in the main reference areas was also launched: the verification of the results, at the beginning of 2019, will allow for the possible extension of this “pilot” project to be evaluated.

**Home automation: air and water.** Within home automation, attention was focused on water and air.

As shown by many studies, air quality is often not high in the home. Clairi, an innovative technological pot that enhances the properties of plant roots and **purifies the air** in the room in which it is installed and can be monitored via a smartphone. The air purification system is the result of the growth of the Italian start-up Clairi, which has filed a patent derived from research developed by NASA in the 70s/80s.

Through a partnership with Culligan, a leading operator in water-treatment systems based in Italy, the Iren Group has launched a **carbonation-refrigeration solution for tap water**, a high-quality, zero-kilometre resource, which prevents the production of plastic from bottled water consumption.

## BUSINESS CUSTOMERS

Although the commodities market scene was marked by extreme volatility in 2018, the Group strengthened its presence in the large-scale gas and electricity customers segment, due to the development of new dedicated offers and the promotion of “green offers” for the supply of electricity produced entirely from renewable sources that allow business customers to promote their environmental commitment.

Iren Mercato confirmed its position as the reference supplier for the Local Authorities in the north east, due to the awarding of a lot of the Consip EE16 tender in 2018 for over 500 GWh in volume and an estimated turnover of around 100 million Euro. Within the context of Consip for the Local Administrations of Piedmont and Val D’Aosta, the possibility of obtaining both fixed and variable prices linked to the “spot” price of energy on the power exchange has been confirmed and, thanks to the Group’s production assets from renewable sources, is giving strength and substance to its sustainability policies by purchasing “100% green” energy certified through the use of the “Iren Verde” brand and the relative Origin Guarantee certification.

The active participation of dispatching demand, i.e. the series of end customer behaviours and interventions that aim to change consumption habits to optimise the load curve in accordance with the needs of the electricity network (**demand side management**), lie within a wider scenario of reviewing the network balancing methods that European Union member states are pushing forward in line with the European Balancing Code.

In 2018, Terna published the procedure for the forward procurement of dispatching resources supplied by UVAM (*Unità Virtuali Abilitate Miste* - Virtual Mixed Enabled Units: an aggregate of consumption units, production units and accumulation systems that meet certain specific requirements, for example, being located within the same aggregation perimeter, having the withdrawal points not included in the dispatching contract of the Single Buyer, having a peripheral monitoring unit and at least an hourly meter and that are not qualified to participate in the Capacity Market). Thus as it has developed specific technological architecture, the Iren Group proposes itself as an aggregator of UVAM for both loads internal to the Group and for end customers.

In the **Environment sector**, the service offers are divided by customer type:

- small, medium and large producers of special waste in areas in which the Group has storage and/or disposal plants;
- medium and large producers of special waste, located throughout the country, for which the Group operates mainly as an intermediary due to commercial agreements with third-party treatment plants.

The search for new customers is conducted using a consolidated strategy that includes constant territorial monitoring, a ranking of potential customers, a need analysis phase and then a phase in which an offer of specific services is constructed.

The small customer segment has various institutional channels for requesting environmental health services available to it, whether occasional or continuous; in the latter case, the Group offers scheduled withdrawals on a regular basis during the year against agreements and/or framework contracts negotiated also with the relevant trade associations.



2018 was the year in which Iren Group entered the world of electric mobility, legitimised by the launch of the IrenGO brand, which driving the Group’s mobility products and services solutions.



Thanks to leading partnerships with various specialised operators already present on the market, IrenGO offers a wide range of charging systems, wall boxes and columns with various performance and power levels, management software and apps that allow customers to interact with the charging systems.

Thanks to a collaboration with Arval, electric rental cars, electric bikes and scooters are also offered to various target customers, companies and local authorities and citizens. The Group is also a partner of Mimoto in the scooter-sharing service launched in Turin in September 2018. The energy that powers the electric vehicles and charging systems is 100% certified renewable. IrenGO is a project that is in line with the sustainability and innovation values expressed by the Group and is firmly in keeping with the New Downstream solutions, allowing customers to adopt a single supplier for the home and now also for their “garage”.

### MARKETING AND CARING CAMPAIGNS

Specific communication campaigns were conducted via different channels in 2018, with a focus on new products concerning e-mobility and home automation. In the areas in which district heating has been expanded (Turin and Piacenza), a campaign was run to promote the service with posters and inserts in the main local newspapers.

The development of the **New Downstream** project was also bolstered by extensive activity conducted at Iren spaces in the area, with the creation of specifically dedicated exposition spaces and special sales initiatives. Following the expansion of the New Downstream product portfolio, the e-commerce section was also expanded and online promotion tools were refined, with specific online campaigns and digital marketing activities being defined.

Over the year, new caring campaigns and the promotion of specific services were also run (upgrades to digital bills and direct debits;

subscriptions to the loyalty programme) with the provision of vouchers and free policies.

### CUSTOMER SATISFACTION

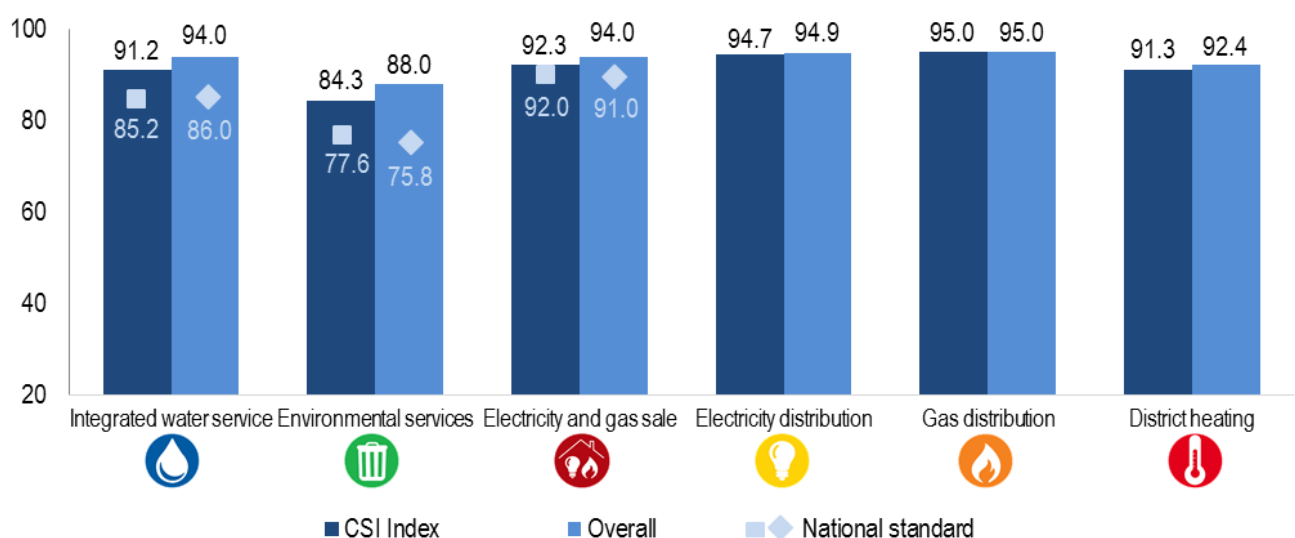
Iren Group has structured a regular monitoring system to evaluate the quality of the services supplied in order to identify actions for communication and operational interventions for continuous improvement.

Customer satisfaction surveys are assigned to the Corporate Social Responsibility department and Local Committees, which deal with various business units for the definition of the survey areas and sharing the results achieved.

The customer satisfaction survey carried out annually provides the following for the various sectors:

- an overall indicator (CSI index) that shows customer satisfaction in terms of the differences between perceived service value and expectations in regard to various technical and relational aspects, which are weighted between them;
- a synthetic overall satisfaction indicator that is monitored by directly asking the customer to highlight the overall perceived satisfaction level. Elements concerning the image and reputation of the company are crucial in this question;
- comparison with national industry standards in the “Italian Barometer of Customer Satisfaction Index” (BICSI), the result of surveys conducted by the Cerved Group.

The 2018 survey, which includes the La Spezia territory for the services managed in the area for the first time, illustrates extremely positive results as a whole, considering all the services examined, which remain substantially higher than the corresponding national reference standards.





High levels of customer satisfaction  
in regulated and free market services

## COMPLAINTS AND BREACHES

The monitoring of **complaints** is not only an obligation in respect of the Regulatory Bodies but is also a fundamental management instrument for identifying critical issues and defining and implementing corrective actions. The number and type of complaints is, therefore, an element of heavy focus for the Group and, at the same time, attests to the heightened awareness of customers and the growing level of their expectations. In 2018, the Iren Group received a total of 25,236 complaints for the services managed, of which 10,856 for gas, electricity and district heating, 2,331 for the water service and 12,049 for environmental services. In energy services, the number of complaints received was in line with 2017 and considering the increase in the customer base, a reduction in the complaint rate can be noted. The most frequent reasons for complaints included invoicing and contract issues. The water service also recorded a number of complaints that was in line with 2017. The most frequent topics were: invoice amounts, payments, refunds, credit management, taking readings, service

continuity and problems generated by technical work on plants or the network.

With EU Regulation 2016/679 (GDPR) coming into force in 2018, the term “compliant” must now also include requests, from natural persons who are data subjects in the processing of personal data, sent to the Data Protection Authority concerning personal data protection in the event of a possible violation of the legislation on the matter. For 2018, 4 complaints were received from external parties and acknowledged by the organisation, as well as 1 complaint from control bodies. No complaint was made in regard to the loss or theft of customer data.

Iren Group did not record any breaches in 2018 in the scope of discriminatory practices against customers. Likewise, no incidents of non-conformity were recorded, with relative sanctions, in regard to information, the supply of products and services, their relative safety and marketing activities (publicity, promotion and sponsorships). Following on from the appeal submitted by the Group, the decision concerning the proceedings instigated by the Competition Authority in 2016 for alleged unfair sales practices regarding the acquisition of some electricity and gas customers is still pending.

## CUSTOMERS IN NUMBERS

	2018	2017	2016
Retail electricity customers	948,816	820,450	791,000
Retail gas customers	906,376	896,950	806,000
Citizens served by the district heating service	868,130	871,000	846,000
Integrated water service citizens	2,829,798	2,640,754	2,508,066
Integrated water service municipalities	265	242	206
Urban environmental services citizens	2,320,687	2,096,232	2,121,000
Urban environmental services municipalities <sup>(1)</sup>	165	145	147

<sup>(1)</sup> The figure for 2017 decreased compared to 2016 due to the aggregations implemented among the Municipalities.

## ELECTRICITY

### ELECTRICITY TARIFF

Electricity tariffs consist of costs relevant to the portion of energy (supply and commercialisation), network and measurement costs, general system charges and taxes. This composition applies to all categories of customers:

- **free market** customers are those that have chosen an offer from any electricity supplier;
- **protected customers** are domestic customers and low-voltage small business customers that have not chosen any free market supplier;
- **safeguarded** customers are customers that have not chosen a free market electricity supplier and are not included in the above category of protected customers.

In 2018, the average composition of the bill in the protected market service was made up 50% of energy, 19% by measurement and network costs, 18% by system charges (parafiscal component) and 13% by taxes (excise duties and VAT).

On the free market, the difference between tariffs offered by competing suppliers is determined by procurement and sale costs (energy), since the other cost items have to comply with the fixed national tariffs defined by ARERA and the Government.

The overall cost for the fourth quarter of 2018 by customer type (3 kW meter and annual consumption of 2,700 kWh) was 0.217 €/kWh.

### ELECTRICITY SOCIAL BONUS

The electricity bonus was introduced by the Government and made operational by ARERA, in collaboration with Municipalities, in order to guarantee savings on electricity costs to financially burdened and/or large families. It is also provided for cases in which a serious

disease entails the use of indispensable electrical medical equipment to keep them alive (physical problems). In order to access the bonus, families that fall within the income and/or social-health parameters must submit a request to their municipality. In 2018, the bonus allowed for a 30% reduction in the bill. The amounts were:

- 125 Euro for a family of 1 or 2 members;
- 153 Euro for a family of 3 or 4 members;
- 184 Euro for a family of more than 4 members.

## SERVICE LEVELS

### QUALITY STANDARDS FOR THE SALE OF ELECTRICITY

The commercial quality standards set out by ARERA (Resolution 164/08 Amalgamated Law on the Quality of Sales Services - TIQV) refer to how promptly the seller provides some services requested by customers (replies to written complaints and requests for information, corrections of bills, etc.). The seller must comply with specific standards (beyond which, customers are entitled to automatic compensation) and general standards (for which a given percentage must be respected and for which there is no automatic compensation). Data relevant to the individual companies are published in order to allow customers to compare the service levels offered. The figure for Iren Group for 2018 is:

Response to written complaints	2018	Times laid down by ARERA
Average response time (days)	25.8	40

For the constant monitoring of the commercial quality of the electricity service, Iren Group regards customer satisfaction monitoring as strategic (in this regard, see page 87).

### QUALITY STANDARDS FOR THE DISTRIBUTION OF ELECTRICITY

ARERA (Resolution 646/2015/R/EEL) approved the “Amalgamated law on the output-based regulation of the electricity distribution and measurement services” for the 2016-2023 period, which governs the continuity of service and voltage quality, specific and general levels of commercial quality and the selective promotion of investments in distribution networks.

Below we break down some of the indicators measuring service quality and having an impact on end customers.

The **mean number of interruptions per LV customer (low voltage) (N1)** is the indicator relevant to unexpected long or short-term interruptions (less than 3 minutes but more than 1 second) attributable to the distributor. For Iren Group, the targets set by ARERA are as follows: 1 interruption per year for high-density (Municipalities with over 50,000 inhabitants), 2.50 interruptions per year for medium-density (2.25 for Municipalities with more than 5,000 inhabitants and 0.25 for joining the adjustment due to interruptions caused by external forces) and 4 interruptions per year for low-density (Municipalities with fewer than 5,000 inhabitants). If the

distributor achieves an improvement level at the end of the year compared to the previous year, it receives a bonus from ARERA, or otherwise it may receive a sanction and the relative fine.

Average number of outages per LV customer - N1 <sup>(1)</sup>	2018	2017	2016
Turin high-density	1.37	1.69	1.28
Parma high-density	1.80	1.04	1.50
Parma low-density	2.59	3.94	3.05
Vercelli medium-density	1.25	0.57	0.37

<sup>(1)</sup> Estimated 2018 figures. They are subject to verification and are dependent on submission to ARERA on 31/03/2019 for the 2018 financial year. The figures for 2017 were recalculated on the basis of the final data submitted to the Authority on 31 March 2018.

The **cumulative downtime (D1)** measures the average number of minutes of interruption, per low voltage customer, of long-lasting interruptions without notice, attributable to the distributor. For Iren Group, the targets set by ARERA are as follows: 25 minutes per year for high-density (Municipalities with over 50,000 inhabitants), 45 minutes per year for medium-density (40 minutes for Municipalities with more than 5,000 inhabitants and 5 minutes for joining the adjustment due to interruptions caused by external forces) and 60 minutes per year for low-density (Municipalities with fewer than 5,000 inhabitants). If the distribution company achieved a D1 improvement level at the end of the year compared to the previous year, it receives a bonus from ARERA, or otherwise it may receive a sanction and the relative fine.

Cumulative downtime - D1 (minutes/user)	2018	2017	2016
Turin high-density	28.70	25.39	25.84
Parma high-density	34.21	17.89	27.55
Parma low-density	36.61	51.18	47.00
Vercelli medium-density	11.23	5.96	3.25

<sup>(1)</sup> Estimated 2018 figures. They are subject to verification and are dependent on submission to ARERA on 31/03/2019 for the 2018 financial year. The figures for 2017 were recalculated on the basis of the final data submitted to the Authority on 31 March 2018.

**Average time to arrival at the place of the call of the electricity emergency team** is intended as the time lapse between the call made by the customer, or the alarm activation for remotely controlled plants, and the arrival of staff at the site where action is required.

Average time to arrival at the place of the call of the electricity emergency team (minutes) <sup>(1)</sup>	2018	2017
Turin	68	75
Parma	69	74
Vercelli	42	40

<sup>(1)</sup> Estimated figures. They are subject to verification and are dependent on submission to ARERA on 31/03/2019 for the 2018 financial year.

The Group, in the context of credit control, monitors the network disconnections of customers due to non-payment of bills, but does not consider it appropriate to report it, considering it as being sensitive data. The modernisation of the national park of electricity production plants and the strong increase in distributed generation, together with the networks renovation plan, produced a more efficient system, with a subsequent trend, in line with the previous year, of network losses.



ARERA conventionally sets standard leaks, defining a percentage amount of the energy withdrawn in function of voltage, with the aim of encouraging the reduction of network leaks, comparing standard leaks with actual leaks.

Electricity network leaks <sup>(1)</sup>	2018	2017	2016
Iren Group	4.17%	3.91%	4.65%
National average	6.50%	6.50%	6.70%

<sup>(1)</sup> The national average is the latest available from the GSE (Electricity Services Provider) Electricity Report. The 2017 figure was updated on 31 December 2017.

## ELECTRICITY DISTRIBUTION NETWORK

Iren Group manages the electricity distribution network plants in the Municipality of Parma, the City of Turin, as well as some sections of network in some municipalities in the metropolitan area, Valle Orco and Valle Dora, and the City of Vercelli.

The size of plants owned by the Group at 31 December 2018 is summarised up in the table below:

Distribution network plants	unit of measure	2018			2017			2016		
		Parma	Turin	Vercelli	Parma	Turin	Vercelli	Parma	Turin	Vercelli
HV/MV stations	no.	5	9	1	5	9	1	5	9	1
HV lines	km	-	22	11	-	22	11	-	22	8.7
HV/MV transformers	no.	13	21	2	13	21	2	13	21	2
HV/MV transformation power	MVA	605	1,353	50	605	1,353	50	605	1,353	50
MV Cables	km	628	2,005	135	609	2,001	135	593	1,984	161
MV Overhead power lines	km	269	7	57	271	17	54	274	18	52
MV/MV primary substations	no.	-	21	1	-	21	2	-	21	2
MV/LV secondary substations	no.	1,144	3,362	200	1,131	3,386	201	1,129	2,945	199
MV delivery substations	no.	153	295	44	147	297	47	142	303	46
Tramway power supply conversion substations	no.	-	18	-	-	18	-	-	18	-
MV/LV secondary substation transformers	no.	1,390	3,235	300	1,379	3,172	298	1,378	3,260	295
MV/LV installed transformation power	MVA	366	1,082	61	360	1,060	61	359	1,071	60
LV Cables	km	1,013	2,247	252	1,001	2,231	251	990	2,242	250
LV Overhead power lines	km	597	370	78	601	372	78	604	360	78
Low voltage concentrators (LVC)	no.	1,375	3,205	138	1,362	3,232	223	1,362	3,266	221
Electronic meters	no.	136,109	586,626	31,224	135,765	583,888	31,276	134,174	607,319	31,252



The annual maintenance plan, on the secondary electricity distribution networks, provides for the inspection of both Medium Voltage (MV) substations and overhead lines with different articulation for the areas of reference:

- for electricity substations, an inspection every three years for Parma, every two years for Turin and every year for Vercelli. In 2018, 2,389 out of the total of 5,238 substations were inspected, amounting to 45.6%;
- for medium voltage (MV) overhead lines, a visual inspection every three years for Parma, every three months for Turin and once a year for Vercelli. The electricity network is approximately 1,388 km and in 2018 around 17.4% was inspected.

The inspection plan, which was fully conducted in 2018, consists of controls of the compressed-air systems in the Turin area every quarter, the general inspection of every plant every four months, the thermographic control of active plant areas every six months, the control of electrical equipment containing oil with PCB>50 ppm every year and, also yearly, the control of the state of asbestos products.

## GAS

### GAS TARIFF

Gas tariffs comply with ARERA regulations (Amalgamated Gas Sale Law – TIVG and the Consolidated Law – TUDG/RTDG), State laws concerning Gas excise taxes and VAT and Regional laws concerning the additional regional tax (ARISGAM) applied to natural gas. The final gas price is made up of an energy related component and the commercial activities in the hands of the sales company and a component relevant to costs for gas transport in domestic networks and local distribution networks that cover the

costs of the national transporter and the company that manages the local network. To these domestic taxes, additional regional taxes, as well as VAT, are added.

## GAS SOCIAL BONUS

Some time ago ARERA introduced a mechanism through which financially burdened and/or large families are entitled access to a subsidy that mitigates the economic burden represented by the use of gas. The mechanism is generated from a request submitted by the customer to the Municipality of residence, certifying their condition of financial difficulty. Subsequent to a positive assessment by the municipality, the distributor is notified, which credits the seller with a determined amount that the seller will pay to the end customer. The gas bonus is provided for financially burdened families (identified according to the EESI indicator) and applies only to methane gas distributed to the network for home-of-residence consumption and not cylinder gas or LPG.



## SERVICE LEVELS

### QUALITY STANDARDS FOR THE SALE OF GAS

As for electricity, the quality standards for the sale of gas are set out by ARERA (Resolution 164/08 Amalgamated Law on the Quality of Sales Services - TIQV) and provide for compliance with specific and general standards in how promptly the seller provides some services requested by customers.

The figure for Iren Group for 2018 is:

Response to written complaints	2018	Max time laid down by ARERA
Average response time (days)	28.7	40

### QUALITY STANDARDS FOR THE DISTRIBUTION OF GAS

The distribution service consists of the withdrawal of natural gas from Snam Rete Gas pipelines, by means of first-stage withdrawal points, and its transportation through local gas pipeline networks for delivery to end users. A gas distribution system is typically composed of:

- points of interconnection (RE.MI substations) with the national or regional network of transmission pipelines, through which

the distribution network is powered, where delivery, filtration, preheating, pressure regulation, measurement and the addition of gas odourants are carried out;

- the gas distribution network;
- user connection plants for the delivery of gas to the end users and measurement via meters.

Gas distribution is carried out by Iren Group in compliance with the rules of functional separation for companies vertically integrated into the sector, in compliance with the principles of cost-effectiveness, profitability and confidentiality of company data with the aim of promoting competition, efficiency and adequate service levels. The use of innovative technologies for laying and maintaining the networks means that necessary activities can be performed while reducing time frames and costs and limiting inconvenience to residents to a minimum. Security is guaranteed via remote control systems, a 24-hour emergency service, the cathodic protection of the steel networks, the use of odourised gas and regular and scheduled inspection of the network.

The gas distribution network in the areas managed by the Group is made up of:

- in Genoa, a single plant powered by 7 RE.MI. substations;
- in the Emilia Romagna area, by several plants, each one powered by one or more RE.MI. substations;
- in the Vercelli area, by a single interconnected plant, powered by 2 RE.MI substations, which also includes some municipalities outside of the province.

Gas meters installed (no.)	2018	2017
Total gas meters	807,479	808,521
- of which electronic meters	476,869	261,191
<b>% of electronic meters out of the total</b>	<b>59.0%</b>	<b>32.3%</b>

Iren Group also manages the LPG distribution and sale service. Distribution is carried out through 14 plants located in some mountain municipalities of the Province of Reggio Emilia and 7 plants located in three municipalities in the province of Genoa. The suppliers deliver already odourised LPG in tanks and Iren distributes it to customers at a pressure of 30 mbar. Safety is ensured by means of remote control of the plants. In relation to the commercial quality parameters, the gas distribution service refers to the standards laid down by ARERA, for which automatic compensation to the customer is envisaged in the case of non-compliance.

Commercial quality standards	2018	Max time laid down by ARERA
Cost estimate for simple jobs	7.7 days	15 working days
Cost estimate for complex jobs	12.5 days	30 working days
Execution of simple jobs	6.2 days	10 working days
Activating supply	3.7 days	10 working days
Deactivating supply	3.0 days	5 working days
Reactivation following on from deactivation due to non-payment	1.1 days	2 working days



## SERVICE OUTAGES AND LEAKS ON THE GAS NETWORK

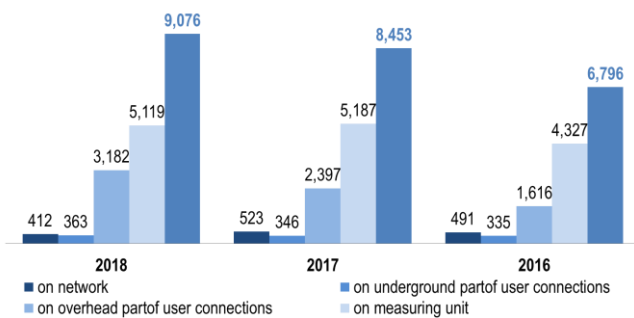
Gas interruptions occur mainly during network renovation works when the user connections are switched from old to new pipelines. The Group intervenes, whenever possible and to an ever-greater extent, using a device that allows switching without interrupting the gas supply. Service interruptions are divided into **interruptions with notice**, if works are planned and the customer can be informed promptly of the interruption, and **interruptions without notice**, that is, those that cannot be communicated at least one day beforehand to all customers.

Gas outages (no.)	2018	2017	2016
Outage without notice	990	1,486	1,204
Outage with notice	1,652	1,531	1,772
<b>TOTAL</b>	<b>2,642</b>	<b>3,017</b>	<b>2,976</b>

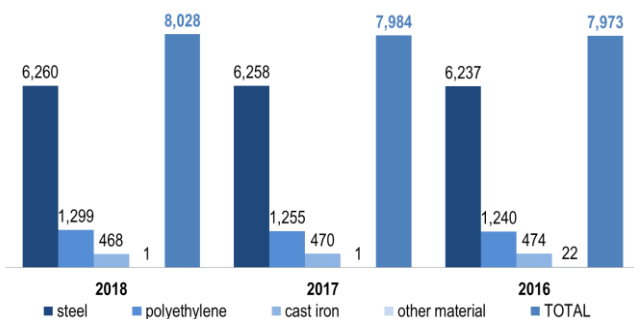
In compliance with the ARERA provisions, the main initiatives to reduce the number of gas network leaks envisage the gradual application of cathodic protection of the unprotected steel network and the replacement of the cast iron pipelines with hemp and lead joints. In 2018, in addition to the search for leaks on the underground network imposed by ARERA, the systematic search for leaks was extended to the metering groups in the Emilia Romagna area also, as already carried out in Liguria.

In reference to gas leaks, the table below highlights that also in 2018 numerically significant gas leaks come from the metering groups.

### NETWORK LEAKS (NO.)



### GAS NETWORK COMPOSITION (KM)



The project replacing the gas network with new steel, polyethylene and cast iron pipes also continued in 2018.

Gas network replaced (km)	2018	2017	2016
Steel	16	19	13
Polyethylene	0	0	0
Cast iron	3	5	5
<b>TOTAL</b>	<b>19</b>	<b>24</b>	<b>18</b>

## SAFETY OF THE GAS NETWORK

Network inspection, an effective emergency service and an adequate concentration of odorant are fundamentally important elements in the proper operation of a gas distribution system, together with a continuous modernisation of the network. ARERA establishes the safety service obligations, including network inspections.

Gas network inspected during the year	2018	ARERA obligation
Low pressure network	78%	at least 25%
Medium and high pressure network	84%	at least 33%
<b>Total network inspected</b>	<b>81%</b>	

In 2018, Iren Group inspected 6,488 of the 8,028 km of the gas network managed. The scheduled inspection also has the effect of a greater control of leaks.

*In 2018 81% of the gas network was inspected: more than twice than what is requested by ARERA*

ARERA also sets minimum levels of odorants for service safety and the protection of people and things. In 2018, Iren Group fed 47 mg of odorants (tetrahydrothiophene) into the network for every cubic metre of gas distributed, a higher amount than that established by ARERA (32 mg/m<sup>3</sup>), which means that its presence in the air can be noticed easier and any gas leaks identified quickly.

The average time to arrival at the place of the emergency call stood between 27.7 minutes and 38 minutes, in relation to the various areas served. In 2018, the gas Emergency Team received 11,380 calls, 96% of which were responded to with the arrival at the place of the call within the 60 minutes imposed by the Authority.

## DISTRICT HEATING

In 2018, ARERA regulated (Resolution 24/2018, the so-called TUAARA) the methods for connecting to district heating networks and withdrawal by the customer. As a result of this discipline, the contractual documents were adjusted where required.

The district heating Service Charter was published on the irenlucegas.it website and special information sections were added, with particular reference to connection and withdrawal requests. In addition to a commitment to satisfy customer needs, the Service Charter constitutes the commitment to duly consider the reliability of the service, safety when using the service, fairness and equity in

contractual relations. The parameters contained in it allow objective assessments to be made of compliance with the guaranteed standards. Iren Group constantly monitors the quality and efficiency levels of its services with the aim of adapting strategic choices to the expectations of its customers, within a logic of continuous improvement.



## DISTRICT HEATING TARIFFS

District heating tariffs are not currently governed by national regulations and are historically constituted by the principle of “avoided gas cost”, that is the cost that the customer would have paid using natural gas (expressed in Euro/m<sup>3</sup>). The tariffs are, therefore, related to the final cost of natural gas, which is updated depending on the regulations of ARERA, in regards the gas tariffs of the retail market, and the Government in regards to taxes and VAT.

## NETWORK SUBJECT TO INSPECTION

The district heating network managed by Iren Group, in the municipalities of Turin, Nichelino, Grugliasco, Collegno, Rivoli, Genoa, Reggio Emilia, Piacenza and Parma extends to almost 993 km and, in 2018, 843 km were inspected, around 85% of the total.

## INTEGRATED WATER SERVICE

### INTEGRATED WATER SERVICE TARIFF

The organisation of the Integrated Water Service in A.T.O.s (water and waste regulation areas) has led to new rules for setting tariffs, which must completely cover investment and operating costs. The tariffs are approved by ARERA and calculated for 2016-2019 (Resolution no. 664/2015/R/IDR).

In general, the water service tariff consists of one **fixed portion of service**, due irrespective of consumption, and a **variable portion**, based on the consumption of water and waste water treatment services. To discourage waste, the tariff is divided into bands and increases as consumption rises. Types of use that vary from area to area (for example: domestic resident, domestic non-resident, zootechnics, commercial, industrial, craft, other, non-drinking, temporary, building sites, agricultural and oil mills). The table below provides the average tariffs, defined by the Regulatory Authority,

concerning the areas where the Group manages the entire integrated water service (the distribution of drinking water, sewerage and treatment).

Average tariff for IWS (Euro/m <sup>3</sup> ) <sup>(1)</sup>	2018
Province of Asti <sup>(2)</sup>	2.55
Province of Cuneo <sup>(3)</sup>	1.83 - 1.84
Province of Genoa	2.25
Province of La Spezia <sup>(3)</sup>	1.96 - 2.09
Province of Parma <sup>(3)</sup>	1.37 - 2.29
Province of Piacenza <sup>(3)</sup>	1.68 - 2.17
Province of Reggio Emilia	2.07
Province of Vercelli <sup>(3)</sup>	0.49-1.80

<sup>(1)</sup> The average tariff is calculated by adding the basic domestic use tariff for the water service, the sewerage tariff and the treatment tariff.

<sup>(2)</sup> The figure refers to the tariff applied to the Municipalities of Canelli and Nizza Monferrato.

<sup>(3)</sup> In the area served, different reference tariffs are present that are given in minimum and maximum figures.

In the areas served in the provinces of Savona, Imperia, Aosta, Novara, Brescia, Mantua, Pavia and Verona, the management of Iren Group is partial and mainly concerns the water service.

## SOCIAL FUNDS FOR WATER

Starting from 2018, ARERA has introduced (Resolution 897/2017) the social water bonus for customers in financial difficulty. A specific tariff component (IU3) of 0.005 Euro/cubic meter sold was introduced for 2018 to cover the cost of these products. Users with an EESI indicator of less than 8,107.5 Euro (or less than 20,000 Euro if there are more than three dependent children) and other specific categories are entitled to claim the bonus. The bonus covers the consumption of 50 litres of drinking water per person per day.

The Area Governing Bodies may add an additional bonus to this bonus, financed by the tariff of the Area itself and disbursed according to modalities established by said Body.

In Emilia, ATERSIR (Territorial Agency of Emilia Romagna for Water and Waste Services) approved a social fund for families in situations of economic hardship. For 2018, the amount for Parma was 180,000 Euro, 120,000 Euro for the province of Piacenza and 262,500 Euro for the province of Reggio Emilia. An annual social fund was established in Genoa, resolved by the Mayors' Assembly, distributed by the Municipalities to families suffering economic hardship: the amount of 800,000 Euro was confirmed also for 2018.

## QUALITY OF THE INTEGRATED WATER SERVICE

In 2017 all the service charters of Iren Group's integrated water service were updated to incorporate the indicators and time frames defined by ARERA (Resolution 655/15). The first report was made in 2018, in relation to the data collected in the year 2017 and showed a high compliance with the expected time frames, more than 90% for the services on average. The 2018 report and



transmission of services will be done in 2019. In order to constantly monitor the quality of their services, the Group also regards customer satisfaction monitoring to be of fundamental importance. The periodic collection of these surveys was included as an integral and essential part of the operators' quality system (see page 87).

## WATER QUALITY

Water quality control consists of analysing the main parameters laid down by Italian Legislative Decree 31/2001 at the various sampling points established by the Organisation responsible for the control (LHU) along the distribution network and at the outlet of the large purification plants. If the water withdrawn contains levels of harmful substances that exceed the limits specified by legislation, it will be subject to treatment prior to distribution. The treatments most frequently used for deep water are normally designed to remove

iron, manganese and ammonia, elements naturally present in the groundwater captured.

The quality of the water is guaranteed by a control on the entire water process: from water sources to the treatment, filtration and purification processes and the distribution network, up to actual delivery to customers. The samples taken are analysed at Iren Group Laboratories to determine their chemical and microbiological characteristics. In the treatment sector, analytical tests are carried out on the waste water flowing into and out of the plants, and on the intermediate treatment steps, the sludge produced and the drains from the production user plants into the sewer. The number of samples and the relative analysed parameters derive from sampling plans prepared for all the areas managed. The internal tests exceed the minimum number required by law and the protocols stipulated with ATO, ARPA and Provincial Authorities.

Controls on drinking water and waste water (no.)	2018		2017		2016	
	Samples	Parameters	Samples	Parameters	Samples	Parameters
Emilia Romagna	36,325	424,060	37,006	405,545	34,406	376,874
Piedmont/Valle D'Aosta <sup>(1)</sup>	5,132	66,615	5,161	71,153	2,712	24,421
Liguria	12,883	275,437	13,474	236,652	15,296	256,935
Lombardy <sup>(2)</sup>	994	21,078	953	21,064	n.a.	n.a.
Veneto <sup>(3)</sup>	182	4,472	164	4,026	n.a.	n.a.
<b>TOTAL</b>	<b>55,516</b>	<b>791,662</b>	<b>56,758</b>	<b>738,440</b>	<b>52,414</b>	<b>658,230</b>

<sup>(1)</sup> Since 2017, in addition to Vercelli, the provinces of Alessandria, Asti, Cuneo, Novara and Aosta have also been included, where the Group took over management during the year.

<sup>(2)</sup> The figure is related to the provinces of Brescia, Pavia and Mantua and only to samples and parameters conducted on drinking water, as the Group does not manage the waste water service.

<sup>(3)</sup> The figure regards the Province of Verona and samples and parameters conducted on drinking water only, as the Group does not manage the waste water service.

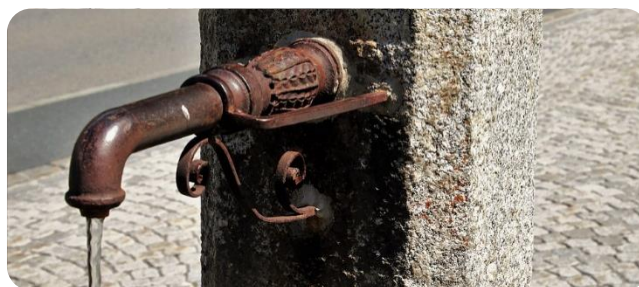
*Over 55,500 samples of drinking and waste water analysed for over 790,000 parameters*

## WATER DISTRIBUTION

Following the necessary tests to establish compliance with the requirements of drinking water, the water withdrawn at various sources is fed into the distribution network that reaches all points of use. Control, extension and maintenance activities are carried out on the networks with a view to minimising inconvenience for the public as far as possible. A priority, in fact, is the attention to the protection of the urban environment and the sustainability of everyday life, in particular with regard to the impact on city streets.

In 2018, 571 planned interruptions in managed areas were conducted, indicating water supply suspensions that are necessary to perform previously planned works. In these cases, notices are disseminated via the press or local television channels about the length of the interruptions, as they affect a significant part of the population. In other cases, notices are posted in the areas concerned to inform the public of the interruption date. For emergency interventions, e.g. to repair a burst pipe, all of the necessary measures are taken in order to restore the water supply in the shortest possible time, in accordance with the provisions of the laws in force. In 2018, a total of 6,341 network breaks occurred,

with repairs carried out after reports were received and the leaks detected. The average time to arrival at the place of the emergency call for the Group is 95.604 minutes (the areas of Novara and Pavia are not included, where the data collected is currently being processed). In 2018, about 2,931 km of the approximately 23,360 km on the water network managed were controlled, equal to 12.5%.



## ENVIRONMENTAL SERVICES

### TARIFF SYSTEM

The TARI tax consists of a **fixed part**, determined by costs of sweeping, general costs, part of the personnel costs and other essential components of the cost of service, referring in particular to depreciation and administration costs, and of a **variable part**,



proportionate to the quantity of waste delivered, to the service supplied and the entity of management costs. The TARI is applied to utilities, taking account of the surface area occupied and partly, for domestic utilities, accounting for the number of family members. With the TARI, Iren Group invoices its service to the Municipality and the Municipality issues payment notices to the users. In calculating the TARI, the Municipal Authority takes account of the VAT that it has to pay, which is why, in the tax applied to users, the VAT is not expressed but included in the tax itself. Social tariffs are not provided for by the general legislation of the TARI. At a

regulatory level, every Municipality may include favourable conditions or reduction clauses in favour of certain groups or users.

In 2018 the Group issued the TARI in the name of and on behalf of some Municipalities served, applying the regulatory provisions in force to the utilities, including those relevant to any reductions or favourable conditions/social exemptions, if expressly approved by the individual Municipalities.

The table below provides the average TARI for 2018 for the main municipalities served.

Year 2018		Average TARI by provincial capital				
Type of domestic users	Municipality of Parma	Municipality of Reggio E.	Municipality of Piacenza	Municipality of Turin	Municipality of La Spezia	
	Euro/year	Euro/year	Euro/year	Euro/year	Euro/year	
1 member families	130.69	177.51	123.67	131.84	161.91	
2 member families	211.23	269.17	218.16	242.78	224.09	
3 member families	242.84	345.10	270.62	289.25	250.85	
4 member families	282.98	395.42	299.33	319.36	270.79	
5 member families	331.96	445.38	358.59	373.81	290.21	
≥ 6 member families	374.91	473.76	404.15	421.97	320.07	

For Vercelli, the TARI established by the municipality does not use a criterion for the number of family members, but rather a tariff of € 2.18 per square metre of surface area occupied for businesses and residential areas.

The Group provides energy services to civil and industrial realities aimed at maximising efficiency and rationalising consumption with maximum environmental comfort. For this purpose the Group uses an advanced remote control system that provides continuous supervision and monitoring of all functional plant parameters. For plants managed for third parties, the Group carried out various technical interventions aimed at the containment of costs. This also included the redevelopment of thermal power stations with the installation of condensing boilers (savings of 10% to 30% depending on the age of the previous plant) and the installation of thermostatic valves and heat allocators in centralised systems (savings from 10% to 20% compared to the previous situation).

## ENERGY EFFICIENCY

Iren Group carries out management and maintenance of heating, air conditioning and general technology plants and currently manages approximately 1,200 facilities in private apartment buildings, public buildings, sports centres, hospitals, shopping centres and the tertiary sector.

### Re-build Project

In 2018, the Re-build project managed by Iren Rinnovabili continued to promote the implementation of interventions to improve the energy efficiency of homes in Reggio Emilia, aiming to reduce environmental impact and generate economic advantages for the community. After conducting around 100 energy audits on as many properties, Iren Rinnovabili is continuing its activities to place the apartment buildings in a condition to make informed choices regarding the reduction of energy waste. Through specific agreements, the Re-build project offers a special guaranteed funding source for apartment buildings to carry out the interventions calculated by companies that are part of the Re-build network. This network allows all energy efficiency requests to be fully covered, making designers, builders and installers available in the local area.

## TELECOMMUNICATIONS

In 2018, advanced tests were conducted to switch on the network that will allow data to be received from IoT (Internet of Things) sensors installed across the territory by Iren Group (for example in district heating) or by third-party customers.

A connection to a new mobile operator was also installed, allowing LTE (Long Term Evolution) services to be carried simultaneously by all three major Italian mobile operators. Tenders for the renewal of maintenance and technical assistance contracts for the telecommunications network have made it possible to improve intervention times and service levels.

Customer satisfaction is monitored and remains constant compared to previous years, which is proven by major customers renewing their contracts. The retention index for 2018 was 89.4%.

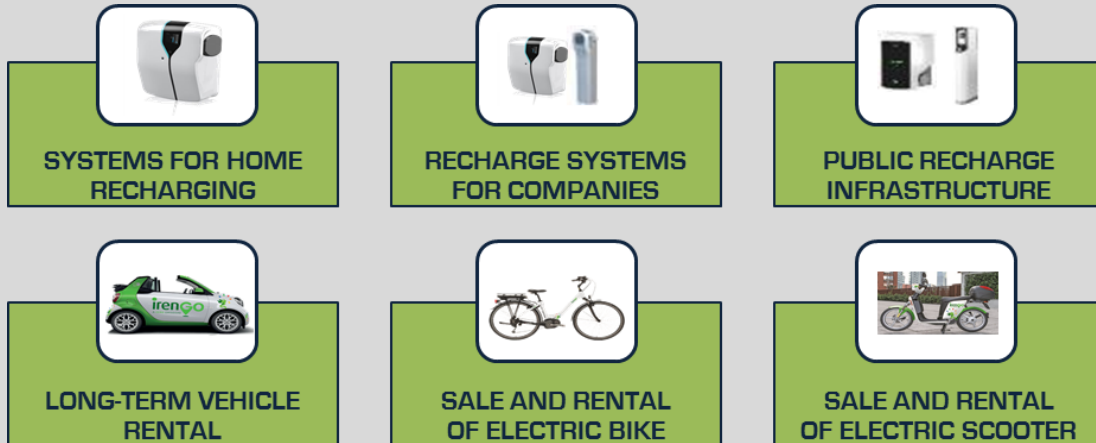


## Focus

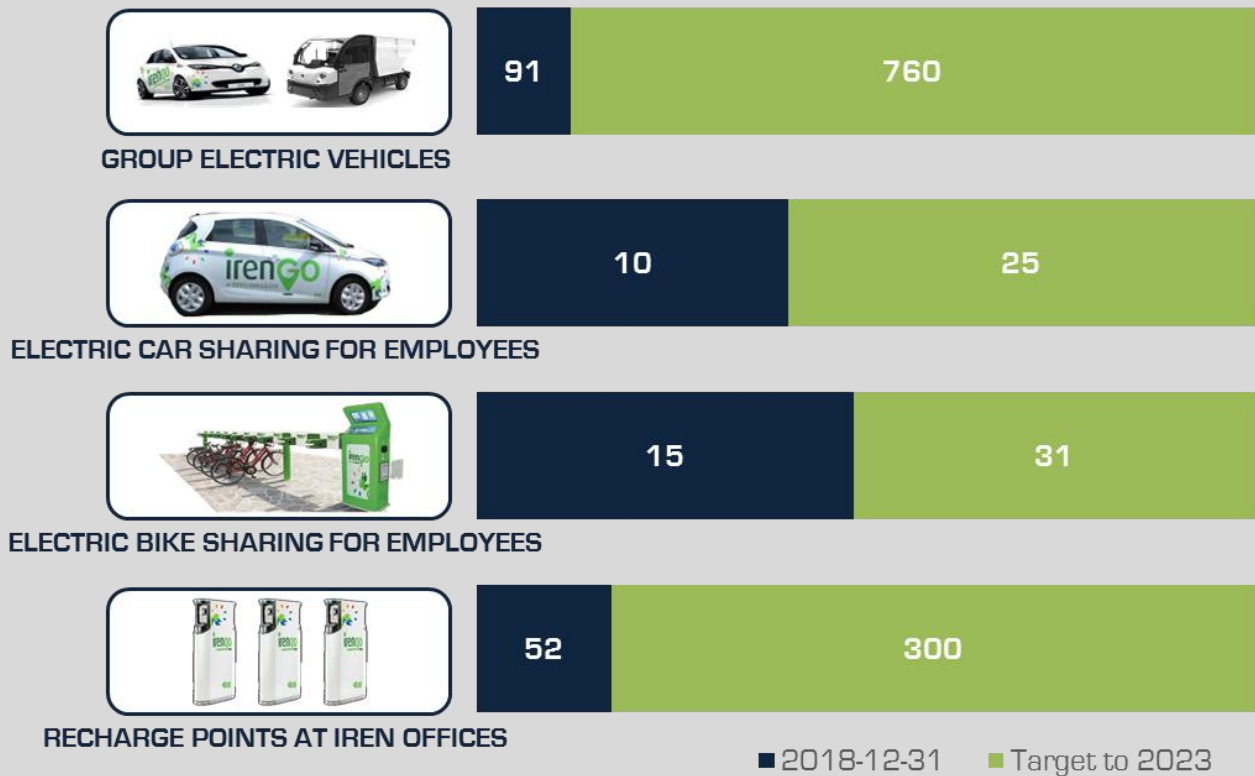


IrenGo is the electric mobility programme for both the Group and private customers, companies and public bodies. All the IrenGO internal and external electric mobility initiatives have 100% green energy supply coming from the Group's hydroelectric plants.

### COMMERCIAL OFFER







### INITIATIVES WITHIN IREN GROUP



# Iren People



## IMPORTANT TOPICS

-  Employment
-  Industrial relations
-  Development of human resources
-  Corporate welfare and diversity
-  Occupational health and safety
-  Internal and external communication



# HUMAN RESOURCES: IREN'S RESOURCES

The growth and enhancement of employees are fundamental values for Iren Group: these are pillars that are transposed into the mission and vision of the Strategic Plan and in the actions of personnel.

In the current economic context, employment is of extreme social importance and is a crucial factor for the Group that sees fundamental capital for growth in its human resources. Maintaining adequate employment levels, skill coverage and development and the quality of employment are essential for pursuing corporate strategies.

The general objective is to manage individual skills and expertise, within a model that aims to maintain the high quality of human resources, through policies that aim to increase professionalism and guarantee the necessary involvement.

The Group is also actively committed to improving working conditions and to the personal development of its employees, favouring a stimulating and productive work environment. Some of the elements which the Group focused on in 2018 include investments in training and development, meticulous career planning, targeted strategies to enhance talents, tailored benefits, personalised remuneration policies and an innovative corporate culture.

*People are a fundamental capital for the Group,  
as also shown by its 2018 Top Employers  
certification*

In 2018, Iren Group obtained the Top Employers Italia certification, an exclusive certification for the best companies in terms of human resources: those that offer excellent working conditions, that train and develop talents at all company levels and that constantly strive to improve and optimise their best practices in the field of human resources.

The Group contributes to maintaining employment levels also by promoting the development of the Companies to which it commissions services, interventions and work, by requesting guarantees from them in terms of both personnel and safety policies through the application of some of its own standards. Moreover, the Group offers employees of supplier companies the possibility to use some of the company services and attend training courses organised by the Group itself.

The Group contributes to the quality of employment of the local inhabitants and its suppliers, also through actions aimed at increasing professional skills and consolidating improvement of the level of education. While having no specific local or regional recruitment policy, given the specific features of the Italian labour market, nearly all employees reside in the province where their place of work is located.

Furthermore, considering the types of business, the geographical areas in which the Group operates and compliance with current legislation, no risk of child labour or forced labour exists for Iren Group.

## PERSONNEL SNAPSHOT

At 31 December 2018, the employees working for Iren Group totalled 7,042, up compared to the 6,285 employees at 31 December 2017. The main personnel changes are due to:

- changes to the perimeter which occurred during the year with the acquisition and consolidation of the ACAM Group and the Spezia Energy Trading, Maira and Formaira companies (for more information see page 7) and the acquisition/sale of business units;
- the continuation of the reorganisation of Iren Group Subsidiaries, in implementation of the Business Plan;
- the demographic rebalancing plan, initiated with a retirement incentive plan and new hires which aim to implement generational change, together with the continuation of the policy to reduce the workforce.

Personnel as at 31/12 by position (no.)	2018	2017	2016
Senior managers	93	89	95
Junior managers	296	265	251
White collar workers	3,304	2,918	2,878
Blue collar workers	3,349	3,013	3,002
<b>TOTAL</b>	<b>7,042</b>	<b>6,285</b>	<b>6,226</b>

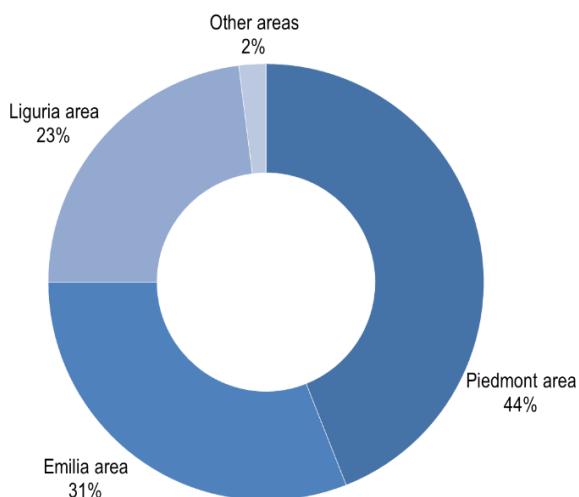
*99% of the Group's personnel is employed with  
a permanent contract or apprenticeship contract*

**99% of personnel is employed with a permanent contract or apprenticeship contract, in the case of young people.**

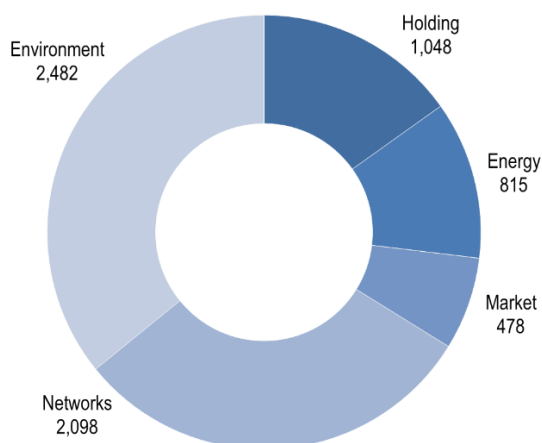
These figures confirm that the Group favours long-lasting working relationships with its employees. It also provides training internship opportunities with the aim of offering a real professional experience, in particular to young personnel. In 2018, 237 people took part in internships.



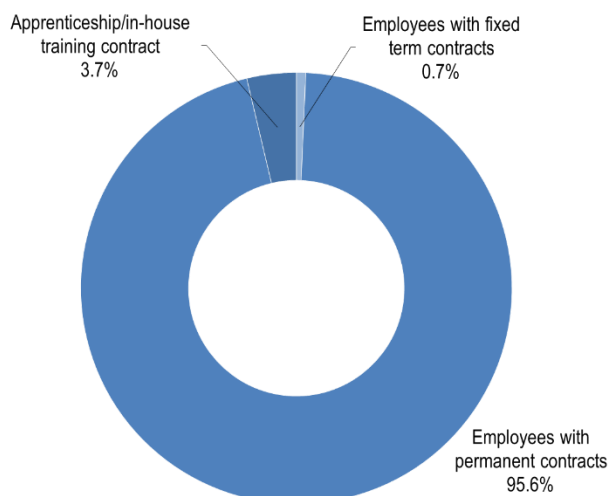
## AVERAGE PERSONNEL BY AREA



## AVERAGE PERSONNEL BY BUSINESS UNIT



## PERSONNEL BY CONTRACT TYPE



39% of employees fall within the 30 to 50 age group, while the average age is 49.

## RECRUITS AND TERMINATIONS

In 2018, there were 313 hires, with a clear majority (82.4%) of people employed with permanent or apprenticeship contracts, while the percentage of fixed-term contracts decreased. Additionally, 78% of employees whose fixed-term or apprenticeship contracts expired during the year were recruited on a permanent contract.

Hires by contract type and age (no.)	2018	2017	2016
Permanent contract	84	47	54
Fixed term contracts	55	38	23
Apprenticeship contracts	174	67	31
<b>TOTAL</b>	<b>313</b>	<b>152</b>	<b>108</b>
under 30 years old	225	79	53
from 30 to 50 years old	79	69	50
over 50 years	9	4	5
<b>TOTAL</b>	<b>313</b>	<b>152</b>	<b>108</b>

One of the main causes of termination of employment is linked to the demographic rebalancing plan with retirement incentives.

Staff exits by reason (no.) and turnover	2018	2017	2016
Resignations	60	53	40
Voluntary termination/retirement	300	51	220
Death	11	13	4
Dismissals	29	19	7
Transfer to other companies in the Group <sup>(1)</sup>	8	7	-
Inability to work	19	14	22
Expiry of fixed-term contract	10	7	13
<b>TOTAL</b>	<b>437</b>	<b>164</b>	<b>306</b>
<b>TURNOVER <sup>(2)</sup></b>	<b>6.2%</b>	<b>2.6%</b>	<b>4.9%</b>

<sup>(1)</sup> Agreed transfer to Companies which are not part of the analysed perimeter.

<sup>(2)</sup> Turnover was calculated as a percentage between the number of exits (including the expiry of fixed-term contracts) and the number of employees at 31/12.

Compared to 2017, the turnover figure increased significantly as most of the terminations provided for under the new retirement plan occurred in 2018, with the workforce repopulated via pre-employment training internships.

Specific studies and simulations were carried out within the context of the Business Plan to assess the Group employees eligible to retire in the 2018-2030 period. Consequently, the Group is making preparations to handle employees that are eligible to retire in the next 5-10 years, accounting for possible organisational changes to work and the new skills needed.

Within the Group there are no specific pension plans, however, all legal and contractual obligations are respected.



## HOURS WORKED AND HOURS OF ABSENCE

Over 94% of hours worked in 2018 were normal working hours.

Hours worked (no.)	2018	2017	2016
Normal working hours	10,571,908	9,370,018	9,305,193
Overtime	627,554	579,732	616,820
<b>TOTAL</b>	<b>11,199,462</b>	<b>9,949,750</b>	<b>9,922,013</b>

In 2018, sick leave (ratio between hours of absence due to illness and hours worked) was 4.8%, substantially unchanged compared to 2017. A further decrease in the absenteeism rate was evident in 2018, coming to 4.9% (the ratio between days of absence due to illness, accident, strikes and other types of absence and the total working days in the year for each employee, excluding Saturdays, Sundays and midweek holidays and is multiplied by the annual average number of employees).

Hours of absence by type (%)	2018	2017	2016
Sick leave	54	59	57
Maternity leave	7	5	5
Accident	7	9	7
Strike	1	1	1
Trade union meetings and leave	5	4	3
Other absences (paid and unpaid)	26	22	27
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>

## REMUNERATION SYSTEM

The Group adopts national collective labour agreements (the main ones include: "Electricity sector employees", "Gas and water sector employees", "Environmental services employees"), which ensure contractual salaries are paid to all employees. All employees are covered by National Collective Labour Agreements. Generally, workers with leasing contracts receive the same remuneration as provided for in contracts of Group employees (including performance bonuses). Furthermore, no differences in benefits for full-time employees, employees with fixed-term contracts or part-time employees exist.

*Group employees receive national collective labour agreements and incentive tools in line with company values*

Variable remuneration linked to performance (for example, on call) and the achievement of company and individual targets is added to fixed remuneration. In 2018, the ratio between the highest annual remuneration and the median remuneration of all other employees was 3.2, while the ratio between the increase of the highest basic

remuneration of the Group and that of the median remuneration of all other employees was 4.3. The Group's average basic salary by gender is 1.14 compared to the average local salary by gender (source: Istat 31/12/2016).

## BONUS SYSTEM

The remuneration and merit policy of the Group aims to reward employees that achieve high levels of results in line with company values, the Group Job System (see page 101) and in accordance with adequate levels of quality and productivity. Personnel are required to be flexible in adapting to new working methods and to demonstrate remarkable professional commitment, in terms of versatility.

**Performance bonuses.** Collective performance bonuses are provided to increase personnel involvement and encourage the achievement of Group objectives. This is set in accordance with strategic and management objectives, enhancing the correlation between compensation and attained results. Several factors are taken into account to determine the compensation, which are connected to incentivising productivity, service levels and the achievement of specific profitability objectives. Once again for 2018, specific agreements were approved on the subject and bonuses may be paid in the form of one-off compensation via welfare instruments to non-management personnel.

**Management by objectives system (MBO).** In most Group Companies, all senior managers, junior managers and employees that hold important positions, which, when achieved, are paid the amounts that were defined at the time when the targets were given. The "objective-based system" is based on the measurable indicators (economic-financial, operative, sustainability or relevant to strategic projects) and occurs in line with the company's mission through several levels of development.

**One-off compensation.** Across all Group Companies a one-off incentive can be paid to employees that have achieved particularly positive results through remarkable work commitment, mainly through projects or innovative activities. The people to receive bonuses are identified after meticulous analysis of individual performance results, conducted by their various managers.

For 2018, 61% of employees will receive a formal performance evaluation, in line with the previous year, as the criteria to determine the individuals to be evaluated has remained the same, in line with the defined policies. Furthermore, the computerisation of the performance evaluation process (around 3,000 employees per system) was implemented, which includes the goal setting, mid-year evaluation and year-end evaluation phases. Overall, the allocated amounts of variable remuneration are given in the table below.

Variable remuneration (thousands of €) <sup>(1)</sup>	2018	2017	2016
Performance bonuses	12,232	12,133	11,266
MBO	3,308	2,882	3,187
One-off compensation	2,112	2,001	1,923

<sup>(1)</sup> Amounts allocated.

# PERSONNEL SELECTION AND DEVELOPMENT

## SELECTION SYSTEM

At Iren Group, the personnel search and selection process is based on the principles of equity and transparency, which are also declared in the Code of Ethics, and is structured in compliance with Italian Legislative Decree 231/2001. Candidates are recruited outside the Group only after it has been verified that there are no potential internal candidates with profiles that are consistent with the position to be filled. Applications for the open positions at Iren Group can be made via the channels on which the active searches are published: the “Irenfutura” Portal, the “jobs” page of the Group’s LinkedIn profile, social media pages and specialised channels using recruiting agencies appointed by Iren, after specific tenders have been conducted, on the basis of specific reference profiles (operational, technical, specialist and managerial). Applicants can select the advertisement that best meets their skills and interests or submit their application, without attaching it to a specific advertisement. All candidates are assessed by professionals with experience in the sector, based on well-defined and transparent criteria, which are shared between the company departments involved. Every CV is assessed on the basis of how well it matches the requirements of the position that the Group is looking to fill. If the profile does not meet the requirements of the position to be filled, the CV may be taken into consideration for other relevant positions. If the profile meets the requirements, it is included within the selection process. Selection processes may include various types of tests (technical, practical, etc.), as well as interviews, so as to gain in-depth knowledge of applicants and to guarantee fairness and transparency. The typical selection process involves a number of predefined steps: identifying the most suitable profiles from the submitted CVs; initial interview (even remotely via Skype) to find out the candidate’s reasons for applying and discuss the experience indicated on the CV in more detail; interview with representatives from personnel management and the organisational department in which the resource will be working.

At the end of the selection, the applicants always receive feedback on the outcome of the interviews, even in the event of a negative outcome. In the event of a positive outcome, the person is integrated into the company by providing a process defined on the basis of the position to be covered.

The Group has joined the national Garanzia Giovani (Youth Guarantee) programme, activating the planned internships as the preferred search and contact tool with the world of work, and the Valore D (D Value) programme, committing itself, along with over 160 nationally important companies, to creating more equal conditions to promote diversity and employment for women.

## PERSONNEL DEVELOPMENT

The professional growth of human resources is essential for Iren Group to anticipate and successfully address the complexities and

changes of the market, regulations and technologies. Iren invests to increase its in-house skills portfolio and enhance its human resources using specific policies, methods and tools. Its commitment to discovering, developing and promoting personnel skills is a fundamental part of the agreement between the company and the individual.

In order to govern all the processes connected to personnel management and development in a unified and systematic way, faced with the dual necessity of addressing the challenges of the future and preparing consistent policies, the Group has put in place its own performance management model, the Group Job System, which is subject to constant update and refinement.

The Job System is a model to analyse and understand the professional skills present within the Group, transversally across the companies, businesses, divisions and departments in which they are found. Their main elements consist of professional areas, professional groups, the sub-groups and standard jobs. Essentially, this constitutes the logical infrastructure on which the main human resources management processes stand, including skills training and development. Specifically, within the Job System, each standard job is weighed, in relation to the contribution that each role within the organisation provides in the creation of value, with a shared platform for internal comparison, as well as with the market. Management bands (groupings) were identified on the basis of the weight of the positions, which were then divided into sections, into which each of the roles present are characterised by the same complexities and responsibilities, managerial skills and management policies. The managerial skills that must be put into effect in order to achieve business results in accordance with the means and values that characterise the Group, and which constitute supportive elements in evaluating personnel performance, were defined alongside the band system adopted. The expected professional knowledge and skills were also defined for each standard job, being those which are fundamental not only for the performance management system, but also for other personnel management processes (first and foremost, training and internal mobility).



In 2018, skill monitoring and evaluation activities continued via dedicated tools that are different for each band and group. A performance management system was also implemented, aimed at the full implementation of all Group resources, with a set of objectives for each professional band and group (connected to the MBO system for higher bands), referencing the economic-financial



dimension, the customer and service dimension, the effectiveness of internal processes dimension and the personnel dimension.

The remuneration policy, within the context of defined budget guidelines, is always based on performance evaluation, taking into account, however, the remuneration package of the people holding the evaluated positions. In any case, any form of discrimination based on gender, age and/or health will be avoided by the continuous implementation of retraining initiatives in the event that personnel are unfit for previous or similar responsibilities.

The employability of personnel is pursued via ongoing training and change management programmes to support current and planned changes (also in the medium/long term), an issue on which specific studies have been implemented as part of defining the Business Plan.

## PERSONNEL TRAINING

Training is a crucially important tool in growing and enhancing human resources, alongside the development strategies and values of the Group and plays a fundamental role, both in pursuing its objectives and in meeting the needs of innovation and change that the market dictates in order to be competitive.

Training is focused on maintaining and developing skills, with particular reference to the “core” skills of various professionals who work within the organisation, whether they be technical, specialist, or managerial skills with a view to lifelong learning.

*Training supports development,  
professional growth and  
meets the needs  
of innovation and change*

Once again in 2018, the training process was carried out by analysing the needs identified in the various Group departments and the design and implementation of initiatives (both ad-hoc internal or external “catalogue” courses) in line with the needs that emerged.

The training provided was subject to efficiency evaluation through participant satisfaction and learning analysis and the monitoring of a set of indicators that provide useful details on improving the offer.

The training procedure was also reviewed during the year to make it more in line with the new organisational and process reasoning. All initiatives are managed through the use of a dedicated management application (Training Portal), which is updated continuously with employees’ personal data and is connected to an open-source platform for the creation and distribution of e-learning courses. Participation is tracked and helps to enhance employees’ training qualifications, which can be consulted by employees, their managers, the Personnel Department and the Prevention and Protection Service Manager.

The Training Portal is also integrated with the “Gamma” app for security management, in order to allow for training needs to be

constantly updated in relation to the risks to employees and the security responsibilities assigned to them, as well as to accurately monitor the expiry dates of the relative updates.

Once again in 2018, training focused on the planning and implementation of initiatives to support change management processes, as well as training courses to reinforce technical-professional, managerial and transversal skills. The most relevant initiatives include courses for newly hired staff (welcome days, learning meetings, “learn to learn” for apprentices, public speaking and presentation techniques) and specific initiatives for middle management (human resources management and communication) on topics such as project management, management control and finance, provided in collaboration with SDA Bocconi, as well as initiatives on diversity management and support for the launch of the smart working project.

The initiatives dedicated to the development of change management projects and specialised training to support innovation included an initiative on workforce & asset management, which was completed in the gas sector and activated in the water sector, for a total of 10,000 hours of training and over 950 employees involved. Operational training sessions were held in learning centres with computer equipment, which were followed by “training reinforcements” through short videos on individual operations that were made available on tablets.

Also in consideration of the “smartphones for all” project, which saw all Group personnel given smartphones, the training offer was enhanced with micro-learning courses featuring tutorials made available on smartphones and tablets and on dedicated areas of the intranet.

Particular importance was given to the dissemination of awareness concerning legal and procedural applications that apply to the Group in regard to market abuse and the new privacy regulations, for the latter the training will be extended to all personnel in 2019 through the dissemination an e-learning course, as well as on the logic of the new performance management evaluation process, on the mission, vision and values and on the Business Plan, with meetings organised according to a cascading process that involved the entire company population.

In 2018, the hours of training provided to Group employees (including apprenticeships and workers with leasing contracts) amounted to around 131,000 (+26% compared to 2017), with over 6,550 employees participating in at least one training initiative (approximately 95% of the total) and a per capita average of 18.9 hours.

*Excellent training results:  
in 2018 the number of employees trained  
and the per capita average hours used  
increased*

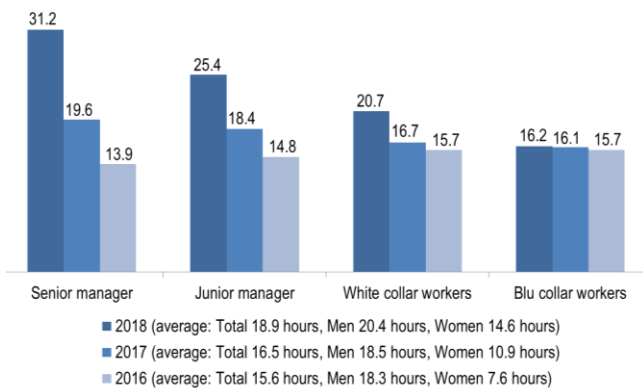


Employees involved in one training course (%) <sup>(1)</sup>	2018	2017	2016
Senior managers	100.00	100.0	89.5
Junior managers	100.00	100.0	95.5
White collar workers	100.00	100.0	94.0
Blue collar workers	79.7	75.0	73.2
<b>TOTAL</b>	<b>94.8</b>	<b>88.2</b>	<b>84.0</b>

<sup>(1)</sup> The percentage is calculated by dividing the number of people involved in at least one training event by the average annual number of employees.

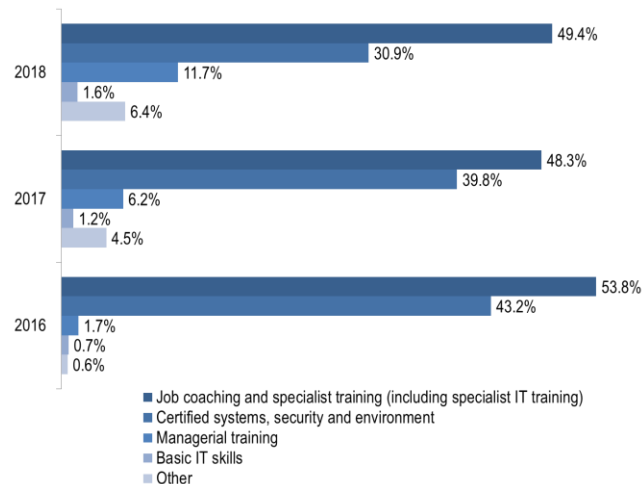
Average hours of training by position	2018	2017	2016
Senior managers	2,838	1,786	1,325
Junior managers	7,417	4,827	3,629
White collar workers	67,573	48,478	45,132
Blue collar workers	52,984	48,542	47,084
<b>TOTAL</b>	<b>130,812</b>	<b>103,633</b>	<b>97,170</b>

#### HOURS OF TRAINING PER CAPITA BY POSITION AND GENDER



Managerial training sharply increased (+139% compared to 2017) thanks to the development of tailor-made initiatives, making use of prestigious Business Schools, Academies and qualified suppliers, with a percentage that rose from 6.2% in 2017 to 11.7% in 2018 in terms of the total number of hours.

#### % DISTRIBUTION OF TRAINING HOURS BY TOPIC



Specialist training and education saw elevated, stable figures, representing 49.4% of the total number of hours provided.

The Group's training activities continue to place great importance on the safety of daily working practices: in fact, around 39,000 hours of training were provided in total in the areas of quality, safety and the environment, with particular reference to training regarding the State-Regions agreement.

The internal planning activity of training initiatives was confirmed as a strong point for 2018.

Teaching was provided by both internal trainers and external consultants (so-called internal training), which was 91% of total hours, with the development of around 300 courses across over 2,000 editions. Only 9% of the initiatives were purchased from catalogues (so-called external training).

Once again in 2018, the satisfaction index for training was positive (78%), as was the learning index (86.6%).

The economic investment in training for 2018, net of internal personnel costs and excluding costs related to Companies that joined the Group during the year, was around 970,000 Euro, of which 600,000 Euro was self-financed by Fonservizi and Fondirigenti funds.

The Group makes its competencies available to the schools and universities within the areas that it operates to create study, research and combined school/work projects and has signed agreements with Universities to activate collaborations on training and recruitment activities. Specifically, during 2018, Iren:

- participated in three Career Days, meeting over 200 students seeking employment who were interested in learning more about the Group or improving their understanding of the world of work;
- organised a specific employer branding event with the Polytechnic of Turin, in which over 80 students participated, who were able to study the main innovative projects under way within the Group and hold individual interviews with Iren recruiters. Furthermore, 30 of them were appropriately selected and participated in "play decide" on digital technologies, a role-playing game aimed at assessing relational soft skills;
- launched 133 curricular internships;
- collaborated on 5 post-graduate master's degrees and accepted 5 internship participants.

## EQUAL OPPORTUNITIES

One of the Iren Group's commitments is the reconciliation of life needs with work needs, improving the quality of the work environment and promoting diversity within the company.

The aim is to become a team, to add value to the outcome of individual work and increase a feeling of belonging, creating shared social, cultural, professional and intellectual terrain.

The Group guarantees non-discrimination in its personnel selection, hiring, training, management, development and



remuneration policies, as provided by the Code of Ethics. This commitment has guaranteed that no related breaches occurred in 2018, continuing the past trend.

*There were no  
breaches connected  
to discrimination in 2018*

The Group has been running a series of “diversity” programmes for years which, starting from 2015, saw commitment and consistent structuring with the establishment of a body called Personnel Welfare and Services.

Among other things, this focuses on diversity management, the application of inclusion policies that recognise and find value in differences, actively managing them and leveraging them to increase the company’s competitiveness.

The main issues of focus are gender, age, disability and differences all areas in which the Group has implemented various programmes and initiatives.

The diversity management policies have been implemented, for example, through the adoption of new flexible working methods to facilitate work-life balance, non-discrimination during the selection phase, the enhancement of skills and the promotion of women’s managerial skills.

In collaboration with an association of companies that promotes diversity, talent and leadership for women for the development of the companies and the country, Iren has launched a project to raise awareness and increase knowledge within the Group on the topic of diversity & inclusion and facilitate the women’s career development by providing the method and tools to promote change.

The process continued with the sending of a newsletter to employees and the activation of focus groups, to collect ideas and proposals for improving the growth and presence of women in the company and enhance other diversities.

A project on disability management within the company is currently being assessed, aimed at implementing a policy of inclusion for people with disabilities or otherwise with problems, with the aim of meeting their needs, identifying solutions that enhance these resources and which will have a positive impact on all employees.

## FEMALE PERSONNEL

**The 1,807 women employed by the Group represent approximately 26% of total employees: their presence has increased compared to previous years, albeit affected by the specific technical and occupational characteristics of the work carried out and by the relative reduced offer, within the work and education markets, of female professionals that meet such characteristics.**

Personnel by position and gender	2018		
	Total no.	No. of women	% Women
Senior managers	93	17	18.3
Junior managers	296	70	23.6
White collar workers	3,304	1,148	34.7
Blue collar workers	3,349	572	17.1
<b>TOTAL</b>	<b>7,042</b>	<b>1,807</b>	<b>25.7</b>

The policies that have been implemented on the non-discrimination front during the selection stage, as well as in regard to skill development, the promotion of women’s managerial skills and the development work-life conciliation tools, have increased the attractiveness of the Group to women, also within more technical roles that have been “reserved” mainly for men. The recent hires of young female graduates, even into strictly technical sectors such as waste or site&network engineering, is evidence of this.

The majority of female personnel (over 67%) are found as junior managers and white collar workers (overall this constitutes over 51% of total personnel). The analysis, also in consideration of the fact that mainly technical activities are carried out, revealed a non-discriminatory situation for women, who represent over 33% of junior managers and white collar workers.

*The presence of women amongst junior managers and white collar workers is higher than that in the overall Group population*

Equal remuneration between men and women is ensured by the application of the National Collective Labour Agreements in which minimum salaries are defined for each category. The average basic remuneration per position held by women (details are available in the “Iren Personnel: the numbers” section at the end of this section) is slightly lower than that of men, due to three factors: a greater percentage of women working part time (approximately 13% of total female population), lower average length of service for women compared to men, the strong incidence of specialist technical roles that are linked to historically male education courses. Through careful selection of policies and the introduction of a reward system aimed at defining consistent policies for all company personnel, the Group has set itself the object, insofar as possible, of rebalancing this situation, also in consideration of the reference labour market.

In line with that provided by the Articles of Association concerning equal access to the administrative and control bodies of listed companies (Italian Law 120/2011), in Iren and in the top-level Companies, gender balance in the set-up of the governing bodies is ensured. On the whole, on the Boards of Directors for Group Companies there are 30 women, amounting to approximately 24.2% of total members (124 people of which 38% in the 30 to 50 age group and 62% over 50). Women represent 46.2% of the members on the Board of Directors of the Parent Group.

In 2018, 240 women took maternity leave, also taking advantage of the various options for working hours that the Group makes available, the specific training that the company provides in these

cases and the services described in the Corporate Welfare paragraph. Upon their return to work, all employees were able to resume the job they had filled before their period of absence or a job with equal professional content in cases where organisational changes occurred in the meantime that meant they could not return to the same position.

## PROTECTED CATEGORIES

Iren Group takes care to provide disabled personnel with conditions that facilitate their integration in the working environment and operates in compliance with current legislation on the subject.

Personnel belonging to protected categories	2018	2017	2016
Number of employees	352	315	317

## CORPORATE WELFARE

The Group is creating a coherent and well-structured welfare system to meet the needs of the different personnel segments and to extend the best practices to the whole Group and is also involving the Trade Unions in this process.

The programmes that have already begun are implemented through a series of initiatives focused on the needs of the person and the family unit.

### QUALITY OF LIFE FOR QUALITY OF WORK

The Group pursues a management policy that promotes and supports the correct balance between professional and private life, providing its employees with a range of opportunities that allows them to reconcile work commitments and personal needs (flexible working hours, teleworking, part time, ultra-daily flexibility, additional leave, up to a maximum of 2 days to be taken, even by the hour, within the year of maturity resulting from the replacement of part of the Performance Bonus, short leave and short paid leave, integration of compulsory maternity treatment, conciliation desks).

**Telecommuting:** Group employees can take advantage, on a voluntary basis, of part-time telecommuting, which was introduced to the company with specific agreements.

The Company prioritises requests motivated by life balance needs (caring for children and the elderly, personal or family member health problems, the distance between their home and place of work, etc.). 107 employees telecommuted in 2018.

**Smart Working:** this is a new way of working based on trust and flexibility, in line with the needs of personnel to better balance their private life and professional life.

The pilot project that launched in 2018 includes the possibility of choosing, in agreement with their manager, to work one day a week away from their workplace (for example, at their home, the home of a relative, a library, etc.).

The trial includes 311 personnel belonging to very different organisational units that carry out activities that are appropriate for smart working. Subscription to the pilot project has been significant,

confirming that this new way of working, in exchange for increased responsibility over results, is in line with the needs of the personnel, who perceive the attention of the Group in regard to their different needs.

The effective benefits observed will be measured six months after the pilot project is launched, so as to then be able to assess the introduction of smart working in the normal organisation of work, accounting for critical issues and better solutions that emerge while the project is being monitored.

**Part time:** all employees can request part-time hours (horizontally, vertically, or mixed), on a voluntary basis and always reversible, without the exclusion of the benefits provided for employees with full-time contracts.

Part-time contracts (no)	2018	2017	2016
Women	235	211	208
Men	38	35	35
<b>TOTAL</b>	<b>273</b>	<b>246</b>	<b>243</b>

The Group has decided to prioritise the requests for telecommuting and smart working submitted by employees whose place of work is in Genoa, who have difficulties in getting to their work for reasons due to the collapse of the Morandi Bridge, and which are compatible with organisational and service needs.

### INITIATIVES FOR EMPLOYEE WELFARE

Looking to promote the well-being of its employees, the Group has chosen to meet personnel needs in regard to health and conscious consumption in 7 operational company cafeterias.

Modernisation work has been carried out to make the spaces more comfortable and to build a new image of a company restaurant. Stringent controls and samples allow for compliance with health protection contractual and legal provisions to be verified, with particular attention to the quality of the ingredients used. The "Sustainable Cafeteria" project was also launched, which sees the involvement and active participation of all employees, based on three main issues: sustainable waste management, also via the reduction of waste and the introduction of free beverages (drink vending machines) in the cafeterias, with the subsequent elimination of plastic bottles and cans; social solidarity, with surplus food being recovered by non-profit organisations; education on proper, healthy eating, via posters, monitors located in dining area and "healthy eating and cooking workshops", which will be run in 2019.

Additionally, the Group has implemented a series of facilitations to improve the quality of life of its employees, with a constant economic commitment: in addition to company cafeterias that prepare fresh food, meal vouchers, food service discounts in the area and company cafés that offer regulated prices, internal parking for private cars and subsidised tariffs or contributions for buying subscriptions to the local public transport network are provided.

All employees are offered, on a voluntary basis and following on from an agreement with the Trade Unions, the option of allocating a portion of their 2018 performance bonus to company welfare



initiatives, which, in this case, benefit from an increase. By accessing the dedicated Iren Welfare Portal, employees can attain – within the limits of the allocated amounts – refunds and/or goods and/or services in the following areas: family, healthcare fund, mortgages, supplementary pensions, sports, culture and leisure and trips. Around 4,400 employees are already subscribed to the Portal, which managed around 1,400,000 Euro in 2018.

The Iren Welfare Plan has been positively evaluated by 65% of people who responded to the survey, which was conducted with the intention of understanding the level of satisfaction with the services available on the Portal.

Lastly, the Group allows all employees the option of purchasing part of the IT and telephone tools that they currently use under favourable terms, in the case of replacement when they become obsolete or when they terminate their service.

#### PREVENTION PROGRAMMES

In the Genoa area, the “Welfare Project” continues, which offers the possibility to make use of regular health check-ups, on a voluntary basis, adjusted for age and gender, against the payment of a biannual contribution of 10 Euro, which is donated in its entirety to the Gaslini Institute in Genoa.

During 2019, this initiative is expected to be extended to other areas in which the Group has offices. In Parma, and for members of the CRAL ARTA association in particular, employees can join a prevention programme that includes specific health checks.

#### SUPPLEMENTARY PENSION COVERAGE

Since the legislation reforming the supplementary pension system came into force, employees have been able to decide how to use their employee severance pay. They can either leave it with the company or put it in one of the pension funds provided for by law, which ensures another pension to supplement the compulsory government-managed pension and thus a higher coverage. Due to the number of participants, the ones that stand out are the pension funds established by collective bargaining, which can only be joined by workers applicable for certain collective agreements.

The main funds for Iren Group employees are as follows: Pegaso (Electric or Gas-water National Collective Labour Agreement) and Previdai for senior managers. During the year, as part of the unification and harmonisation process for economic and regulatory treatment and in order to increase the understanding of young people of the value of supplementary pension funds and incentivise their enrolment in the relevant Funds, it was agreed that - for personnel hired from 2018 - an additional payment would be made every year to the Supplementary Pension that they are enrolled. Similarly, an annual amount to be paid into the Pegaso Fund in the event of registration in the Fund had already been allocated to employees with an Electric National Collective Labour Agreement, hired after 1996 and not already benefiting from tariff discounts.

As at 31 December 2018, 6,244 employees had joined a supplementary pension fund, including employees enrolled in open-end funds. The Group has paid a total of 3,127,408 Euro to the Funds, as the Company's contribution.

Employees can also make use of a pension support and advice service.

#### PERSONNEL INSURANCE COVERAGE

Almost all employees in junior management, white collar and blue collar positions are insured by a policy stipulated by the Company for death or total or partial permanent invalidity due to accidents at and outside of work. Furthermore, special insurance policies have been taken out in the event of death and/or total permanent invalidity resulting from non-occupational illness for Electricity and Gas-Water sector employees, in accordance with the provisions of the respective National Collective Labour Agreements. Insurance coverage in the case of accidents (even ones which occurred outside of work and in the case of occupational illness) and life insurance is provided for all senior managers, as per the provisions of the Confservizi National Collective Labour Agreements for Senior Managers.

#### SUPPLEMENTARY HEALTHCARE

Through their membership to supplementary healthcare funds, healthcare coverage is given to employees in relation to their National Collective Labour Agreement (FASIE for personnel employed on a Gas-water contract, FASDA for personnel employed on a Federambiente contract). The Electricity National Collective Labour Agreement provides for the payment of contributions to CRAL associations for healthcare activities. Specially constituted funds manage the payment of healthcare benefits that ordinary members (employees) and their dependants can benefit from. All senior managers, for whom primary healthcare coverage is provided by their membership to Fasi, are also supplied with supplementary health insurance (Assidai), which refunds additional healthcare costs that are not reimbursed by Fasi.

#### ADVANCE ON EMPLOYEE SEVERANCE PAY

Employees may benefit from better conditions than those provided by the legislation in force by applying for an advance of their employee severance pay more than once to pay for healthcare, to buy their first house, renovate an existing property, restructure or modify buildings in order to remove architectural barriers and in other specific cases.

#### PENSION BENEFITS

Retired employees, and their dependants, can remain members of Group leisure, cultural and sports associations and thus take advantage of a significant part of the offered services.

Retired senior managers, whose last working relationship elapsed while holding the position of senior manager, which lasted not less than one year, can keep their subscription to the Fasi supplementary healthcare fund and make use of the benefits provided. The healthcare also covers any dependants and, in the case of their death, those who hold survivors' pensions.

The electricity sector National Collective Labour Agreement provides for additional monthly payments to the leaving entitlement for employees who leave service with 40 years of contributions or are 60 years of age.

#### LEISURE, CULTURAL AND SPORTING ACTIVITIES

Through the company leisure clubs, which are present in various areas, employees are offered leisure, recreational, sports and cultural activities. Aiming to increase sociability between employees, the following are available: the Employees' Recreational and Cultural Club in Genoa, Adaem and Cral Amiat in

Turin, the Quercioli Club in Reggio Emilia, Cral Amps and Cral Arta in Parma, Cral Enia in Piacenza, the Cral Adam in Vercelli and the Cral Acam in La Spezia. The proposed activities are mainly made up of sports, tourist and cultural activities, courses, lunches, company parties and charitable initiatives. They are held in dedicated locations or through agreements (trips, summer camps for children, etc.). Some associations contribute to the educational expenses of employees' children, as well as allowing school books and stationary to be purchased at discounted prices. The clubs also enter into commercial agreements in the areas of interest to allow employees to purchase products and services at discounted prices. The clubs are almost entirely funded by the Group, which also makes the spaces and equipment required to carry out the activities available to them through a special free loan.

In regards the regulations of the Cral, discussions are under way with Trade Unions in order to harmonise the various economic and regulatory treatments provided by company supplementary agreements which have been subject to withdrawal.

Contribution paid (€)	2018	2017	2016
Leisure activities	769,632	731,687	853,992
Healthcare activities	1,972,327	1,891,104	1,451,760
<b>TOTAL</b>	<b>2,741,959</b>	<b>2,622,791</b>	<b>2,305,752</b>

#### INTERNAL COMMUNICATION

Internal communication is an essential tool for accelerating the development of processes, assisting and supporting organisational changes and new business strategies, developing a common corporate culture and directing efforts towards achieving company objectives, which become shared objectives that can be pursued through each person's contribution.

The "Noi Iren" company Intranet is responsive and accessible off-site when employees are on the move and is the main internal communication tool, with around 4,500 active users every day and over six million page views per year, which has doubled compared to the previous year. Operating personnel can now view and interact with it via the company smartphone that has been given to all employees. "Noi Iren" is the knowledge map of the whole Group and is the access point for company applications. Organisational (notifications, the staff structure, QSA documentation), regulatory (service orders, model 231) and corporate (acquisitions, non-recurring transactions) information is published on the Intranet, in addition to information on the meetings of the Board of Directors and the Business Plan. The intranet also disseminates news from the Iren Informa magazine, ads on the internal notice board for the sale and exchange of items between personnel and cultural information, which aims to involve and encourage participation - both free and at discounted prices - in sports, artistic, theatre and musical initiatives supported by the company held in the various areas. Employee engagement is also encouraged through the organisation of company events and initiatives which include the participation of workers and their family members with the aim of increasing their sense of belonging to the Group.

The work done to spread the vision, mission and values was particularly important, which involved colleagues from various departments defining the internal communication plan and its subsequent implementation, which allowed the creation of a brochure that was distributed to all employees, a jingle to be used for videos, posters, videos and other supporting material.

In this direction, the Group decided to create the fourth edition of "Bimbi in ufficio con mamma e papà" (Children in the office with Mum and Dad) in 2018, which aimed at bringing children into their parents' work environment. Over 450 employee children spent a day in September, before school resumed, in the office with their mum and dad. The children had the opportunity to participate in workshops on energy and sustainability, prepared in collaboration with Bricks 4 kidz: through the use of Lego bricks, they built hydroelectric plants, wind turbines and mini electric vehicles for waste and were involved in topics and disciplines that are important for the company, such as STEM subjects (Science, Technology, Engineering and Mathematics) which represent the key to the future, underlining Iren's investment in innovation.

The year-end meetings in Piedmont, Emilia Romagna and Liguria were also very engaging and well attended, with around 2,000 people taking part. The theme this year was company values, conveyed through music and film, with the involvement of many employees in artistic performances to entertain their colleagues.

The "Iren Informa" magazine is an instrument that has shown itself to be particularly valuable for internal communication in 2018 and for the possibility to involve, reward and enhance Group initiatives that would not be particularly newsworthy in traditional media, improving the ranking on search engines of service news for residents. Over 300 Articles, editorials and interviews are enhanced with photo galleries and videos. A regular newsletter is also created that features the main topics discussed in the magazine and is sent to Group stakeholders.

In 2018, internal communication continued to support the commercial offer called "Dipendenti & Friends" (Employees & Friends), an opportunity that also allows friends and relatives of Group employees to sign electricity and gas supply contracts, with more favourable conditions compared to those offered on the market.

## TRADE UNION AND INDUSTRIAL RELATIONS

Iren Group has always focused heavily on proper industrial relations, based on legislation and company and national collective labour bargaining, in compliance with the national collective labour agreements (CCNL) of reference.

The Group and Trade Unions have signed a Group's Industrial Relations Protocol, which dictates the rules that govern relations between the Parties, which has led to a model being put in place that is based on the sharing of business decisions, which aims to enhance the person-worker who must be involved and grow together with the entire organisation, for the healthy development



of the Group. The shared decisions lead to a sense of belonging and, at the same time, place the employee centre stage.

The Protocol sets out the methods for approaching industrial relations based on three pillars: bargaining, participation and rules between the Parties. Industrial relations are divided into three levels:

- *Group level*, on topics of general interest and/or transversal to businesses and areas and the trend and development of business sectors, or industrial policies, guidelines on organisational structures, the economic results of the Group and the business sectors, the harmonisation processes for company agreements and the coordination of reference National Collective Labour Agreements and company integration;
- *company level*, on topics regarding individual Companies or a cluster of Companies, for which a Unitary Union Representative Body (RSU) is established;
- *territorial level*, on topics regarding the single production unit, downstream of the company level, or on topics that concern several Companies located in the same area.

Furthermore, procedures are defined for developing relations based on information sent to the Trade Unions, discussion and consultation (exchange of information and evaluations, acquisition of opinions, requests or indications from Trade Unions, verification of phenomena on matters specifically identified with a view to seeking possible points of convergence) and negotiation (discussion between the Parties aimed at reaching agreements that have binding force for them).

The Group's Industrial Relations Protocol also establishes two participatory bodies: the RSU National Coordination and the RSU Executive Committees, while bilateral Committees (Environment and Safety, Training and Development, Equal Opportunities and Welfare) are envisaged for analysing specific issues.

Given the Group's corporate and territorial disparity, the result of successive mergers, in 2016-2018 there was a need to temporarily centralise Industrial Relations to overcome existing disparities, to standardise, by reducing and simplifying agreements, administrative management with clear and unambiguous rules and to comply with the provisions of the National Collective Labour Agreements applied within the Group. For these reasons, bargaining at a national level was preferred until 2018. At the territorial level, industrial relations with the corporate Unitary Union Representative Bodies (RSUs) were constantly managed, and renewed between late 2017 and early 2018, as they represent the main stakeholders in regard to the needs of the individual areas/companies of the Group.

The process of harmonising company agreements (around 250) was completed on 18 April 2018, following on from the signing of five agreements (various types of benefits, increased performance bonuses for Junior and Senior managers, Group meal vouchers, meal vouchers for the Environment sector and on-call availability for the Environment sector), while on 24 October 2018, Group agreements were signed concerning: the 2018-2020 performance bonus, the consolidation of the performance bonus, young and new employees and smart working.

Once the harmonisation process for the benefits in the various areas has been completed, a new season of industrial relations will begin in 2019, which will see the implementation of all the instruments and bodies in the Group's Industrial Relations Protocol described above.

Company Management informs the Trade Unions in the event of significant organisational changes (such as the establishment of new business units or changes to the organisation of work within existing units) in order to seek shared solutions where possible. Therefore, service orders or notifications are issued and distributed via the Intranet and/or email and by posting them to company notice boards.

In regard to changes to working hours, the National Collective Labour Agreements require that Management inform the Trade Unions, convene a consultation meeting and define the times (of a maximum duration of 10 to 20 days) for the conclusion of discussions on the topic, upon the expiry of which the Parties can take the action they deem most appropriate. The contracts also cover transfers, providing for at least 30 days' notice in the event that an employee will be transferred to another municipality, with the Trade Unions being informed with adequate notice in the event of collective transfers.

In 2018, the Group definitively lost three cases concerning employees and former employees, which entailed a total expense of around 65,400 Euro.

## OCCUPATIONAL HEALTH AND SAFETY

The Group considers it to be an investment to dedicate human, professional, organisational, technological and economic resources to occupational health and safety, as it believes it to be fundamentally important to protect workers and includes among its objectives not only compliance with the provisions laid down by the law, but also measures taken with a view to continuously improving working conditions.

Monitoring of the Safety Management System is ensured in every Company of the Group by a unique Environment and Safety Service located in the parent company. This guarantees the uniformity of the risk evaluation methods, the identification of organisational, procedural and technical measures and the identification of the required personnel training on the subject of occupational health and safety. Specific codified and systematic audit procedures allow for the monitoring and the continuous improvement of this system to be pursued.

No specific initiatives or programmes limited to serious illness are planned, however, numerous initiatives and programmes concerning welfare and general prevention are planned, both at the level of the various contracts and through specific company agreements.

In 2018, risk assessments were carried out for Iren Rinnovabili (Turin and Genoa areas) and for district heating, hydroelectric production, thermoelectric production and staff structures of Iren Energia.

At least once a year, meetings are held with Worker Safety Representatives (RLS). Specific inspections or meetings are also be carried out at their request. The Worker Safety Representatives (RSL) are also involved in the audits of Certified Systems. In Iren and in the Market (Iren Mercato, Salerno Energia Vendite and Spezia Energy Trading), Network (Ireti, Iren Acqua Tigullio, Iren Acqua, AM.TER and Iren Laboratori) and Environment (AMIAT, Iren Ambiente and ACAM Ambiente) business units, one or two meetings are held per year, depending on requirements, in addition to the annual meeting provided for by Italian Legislative Decree 81/2008. The Worker Safety Representatives (RLS) are also invited to participate in workplace visits with the occupational health physician (Article 25, Italian Legislative Decree 81/2008). At AMIAT, due to its elevated operations and many workplaces, an additional 5/6 meetings are held, on a two month basis. The Energy Business Unit (Iren Energia and Iren Rinnovabili) also organises meetings and inspections, which take place approximately every month, between the individual Departments, Worker Safety Representative (RLS), Occupational Health Physician and the Prevention and Protection Service (SPP). A stringent conception of safety entails total engagement on the behalf of employees that, according to the activity performed and the respective skills and responsibilities, are required to play an active role in prevention. Therefore, particular attention is paid to training and information activities for employees. For employees, continuous monitoring elements are constituted by the analysis of individual accidents and near-accidents and planned supervisory inspections. There are no employees exposed to a high risk of occupational diseases within the Group.

## AGREEMENTS WITH HEALTH AND SAFETY PROTECTION TRADE UNIONS

There is a specific section dedicated to occupational health and safety in the Group's Industrial Relations Protocol and specific agreements have been signed that regulate special content (for example, business trips). Based on these agreements, elections were held for workers' safety Representatives for the various Group companies and the uniform given to each worker was redefined and standardised. The focus on accidents is also demonstrated by the provision of specific objectives, provided within the MBO system, of containment or prevention, assigned to the Managers of operational structures most exposed to these risks.



## MAIN INDICATORS OF HEALTH AND SAFETY

Accident indexes <sup>(1)</sup>	unit of measure	2018
<b>Total number of accidents</b>	no.	310
<b>Hours worked</b>	no.	11,199,462
<b>Frequency index</b> <small>(total no. of accidents/hours worked x 1,000,000)</small>	-	27.68
<b>Days of absence due to accident</b>	days	10,660
<b>Severity index</b> <small>(days of absence due to accidents/hours worked x 1,000)</small>	-	0.95
<b>Incidence index <sup>(2)</sup></b> <small>(total no. accidents/total no. employees x 1,000)</small>	-	44.79
<b>Average duration of absence for accidents</b> <small>(days of absence due to accidents/total no. accidents)</small>	days	34.39
<b>Accidents during travel</b>	no.	57

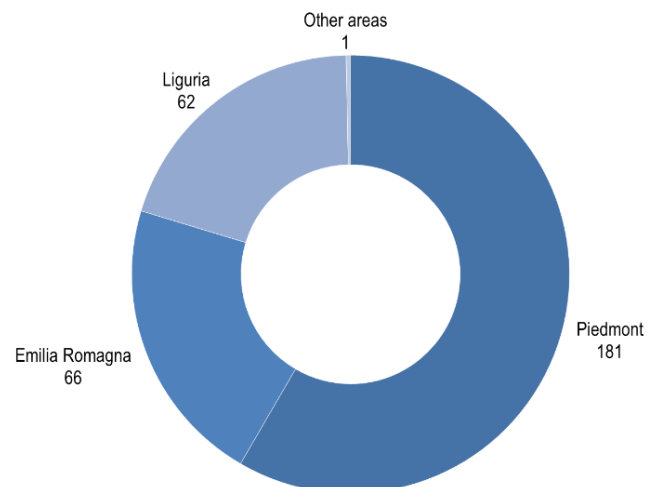
<sup>(1)</sup> For the purposes of calculating the indexes, occupational, random and road accidents in the accident registers of Group Companies are considered. Commuting accidents and those not recognised by INAIL are excluded.

<sup>(2)</sup> The incidence index is calculated considering the average number of employees.

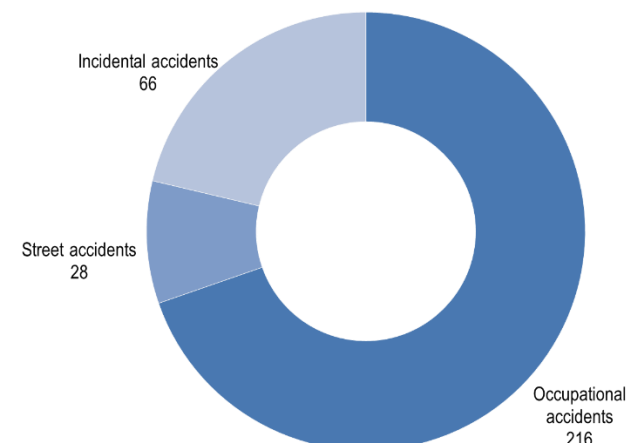
The decreasing trend in the accident frequency index at Group level was confirmed. The severity index remains largely unchanged from the previous year.

In the paragraph "Iren People: the numbers" is the breakdown of the accident indicators for the last three years.

## ACCIDENTS PER GEOGRAPHICAL AREA



## ACCIDENTS PER TYPE





## IREN PEOPLE: THE NUMBERS

Personnel at 31/12 by position, contract type and geographical area	2018		2017		2016	
<b>Position</b>						
Senior managers	93	1.3%	89	1.4%	95	1.6%
Junior managers	296	4.2%	265	4.2%	251	4.0%
White collar workers	3,304	46.9%	2,918	46.4%	2,878	46.2%
Blue collar workers	3,349	47.6%	3,013	48.0%	3,002	48.2%
<b>Contract</b>						
Employees with permanent contracts	6,729	95.6%	6,129	97.5%	6,146	98.7%
Employees with fixed-term contracts	50	0.7%	34	0.5%	12	0.2%
Apprenticeship/in-house training contract	263	3.7%	122	2.0%	68	1.1%
<b>Geographical area</b>						
Province of Turin	2,812	39.9%	2,813	44.8%	2,813	45.2%
Province of Vercelli	229	3.3%	225	3.6%	235	3.8%
Province of Genoa	1,012	14.4%	1,028	16.3%	1,012	16.2%
Province of Reggio Emilia	847	12.0%	747	11.9%	747	12.0%
Province of Parma	691	9.8%	715	11.4%	707	11.3%
Province of Piacenza	540	7.7%	541	8.6%	527	8.5%
Province of La Spezia	709	10.0%	n.a.	n.a.	n.a.	n.a.
Other provinces	202	2.9%	216	3.4%	185	3.0%
<b>TOTAL</b>	<b>7,042</b>	<b>100%</b>	<b>6,285</b>	<b>100%</b>	<b>6,226</b>	<b>100%</b>

Personnel at 31/12 by position and gender	2018			2017			2016		
	Total	Women		Total	Women		Total	Women	
Senior managers	93	17	18.3%	89	13	14.6%	95	14	14.7%
Junior managers	296	70	23.6%	265	66	25.0%	251	57	22.7%
White collar workers	3,304	1,148	34.7%	2,918	983	33.7%	2,878	958	33.3%
Blue collar workers	3,349	572	17.1%	3,013	541	18.0%	3,002	542	18.0%
<b>TOTAL</b>	<b>7,042</b>	<b>1,807</b>	<b>25.7%</b>	<b>6,285</b>	<b>1,603</b>	<b>25.5%</b>	<b>6,226</b>	<b>1,571</b>	<b>25.2%</b>

Average personnel age by position (years)	2018	2017	2016
Senior managers	54	53	53
Junior managers	52	52	52
White collar workers	49	49	49
Blue collar workers	49	48	47
<b>OVERALL AVERAGE</b>	<b>49</b>	<b>49</b>	<b>48</b>

Personnel by qualification (%)	2018	2017	2016
Compulsory education	33	35	35
Professional institutions	11	13	13
Diploma	40	38	38
Degree	16	14	14
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>

Average personnel by Business Unit	2018		2017		2016	
Holding	1,048	15%	933	15%	905	14%
B.U. Energia	815	12%	648	10%	624	10%
B.U. Market	478	7%	464	8%	496	8%
B.U. Networks	2,098	30%	1,955	31%	1,901	31%
B.U. Environment	2,482	36%	2,262	36%	2,296	37%
<b>OVERALL AVERAGE</b>	<b>6,921</b>	<b>100%</b>	<b>6,262</b>	<b>100%</b>	<b>6,222</b>	<b>100%</b>

Average company service of departing staff by age and gender (years)	2018	2017	2016
<b>Age</b>			
under 30 years old	1	1	2
from 30 to 50 years old	8	9	8
over 50 years	30	28	29
<b>Gender</b>			
Men	27	22	26
Women	23	20	21
<b>OVERALL AVERAGE</b>	<b>26</b>	<b>22</b>	<b>25</b>



Employees with a fixed-term and apprenticeship contract (no.)	2018	2017	2016
Employees with contracts expiring in the year	67	31	25
of which taken on during the year with a permanent contract	52	27	21

Personnel turnover by gender, province and age <sup>(1)</sup>	2018	2017	2016
<b>Gender</b>			
Men	7.0%	3.0%	5.6%
Women	3.9%	1.4%	3.0%
<b>Province</b>			
Province of Turin	6.2%	3.0%	4.3%
Province of Vercelli	7.9%	6.2%	5.1%
Province of Genoa	5.3%	2.1%	4.6%
Province of Reggio Emilia	7.9%	2.1%	6.8%
Province of Parma	8.0%	1.5%	5.0%
Province of Piacenza	5.6%	1.1%	3.8%
Province of La Spezia	2.5%	n.a.	n.a.
Other provinces	10.9%	5.1%	10.8%
<b>Age</b>			
Under 30 years old	5.0%	2.7%	3.8%
From 30 to 50 years old	1.6%	1.6%	0.6%
Over 50 years	9.6%	3.5%	9.5%
<b>TOTAL</b>	<b>6.2%</b>	<b>2.6%</b>	<b>4.9%</b>

<sup>(1)</sup> Turnover was calculated as a percentage between the number of exits (including the expiry of fixed-term contracts) and the number of employees at 31/12.

Staff hired in the year by gender, province and position (no.)	2018	2017	2016
<b>Gender</b>			
Men	244	115	86
Women	69	37	22
<b>Province</b>			
Province of Turin	149	68	47
Province of Vercelli	19	4	9
Province of Genoa	39	38	25
Province of Reggio Emilia	40	14	11
Province of Parma	25	18	8
Province of Piacenza	30	8	6
Province of La Spezia	6	n.a.	n.a.
Other provinces	5	2	2
<b>Position</b>			
Senior managers	2	2	8
Junior managers	22	6	3
White collar workers	129	60	43
Blue collar workers	160	84	54
<b>TOTAL</b>	<b>313</b>	<b>152</b>	<b>108</b>

Ratio of basic average salary by gender and position (%)	2018	2017	2016 <sup>(1)</sup>
	% Men/Women		
Senior managers <sup>(2)</sup>	86.2	91.4	92.5
Junior managers	97.1	94.4	97.4
White collar workers	91.1	86.4	91.1
Blue collar workers	93.5	92.0	93.0

<sup>(1)</sup> For the calculation of the average salary in 2016, hires during the year, part-time employees and personnel whose remuneration is subject to recovery by social security institutions (maternity and parental leave etc.) were not considered.

<sup>(2)</sup> The data for 2016 and 2017 were restated.

	2018			
	% Men/Women			
	Senior managers	Junior managers	White collar workers	Blue collar workers
Piedmont	92.0	100.0	92.2	97.4
Emilia Romagna	84.7	96.9	94.3	100.8
Liguria	78.1	100.2	87.9	90.5
Other areas	n.a.	69.6	74.3	n.a.

Accident indexes <sup>(1)</sup>	unit of measure	2018	2017	2016
<b>Total number of accidents</b>	no.	310	295	341
<b>Hours worked</b>	no.	11,199,462	9,949,750	9,922,013
<b>Frequency index</b> (total no. of accidents/hours worked x 1,000,000)	-	27.68	29.65	34.37
<b>Days of absence due to accident</b>	days	10,660	9,266	7,876
<b>Severity index</b> (days of absence due to accidents/hours worked x 1,000)	-	0.95	0.93	0.80
<b>Incidence index <sup>(2)</sup></b> (total no. accidents/total no. employees x 1,000)	-	44.79	47.11	54.81
<b>Average duration of absence for accidents</b> (days of absence due to accidents/total no. accidents)	days	34.39	31.41	23.10
<b>Commuting accidents</b>	no.	57	75	47

<sup>(1)</sup> For the purposes of calculating the accident indexes, occupational, random and road accidents in the accident registers of the Group Companies are considered. Commuting accidents and those not recognised by INAIL are excluded from the accident indexes calculation.

<sup>(2)</sup> The incidence index is calculated considering the average number of employees.

Accidents by gender (no.)	2018	2017	2016
Men	224	213	219
Women	86	82	122
<b>TOTAL</b>	<b>310</b>	<b>295</b>	<b>341</b>

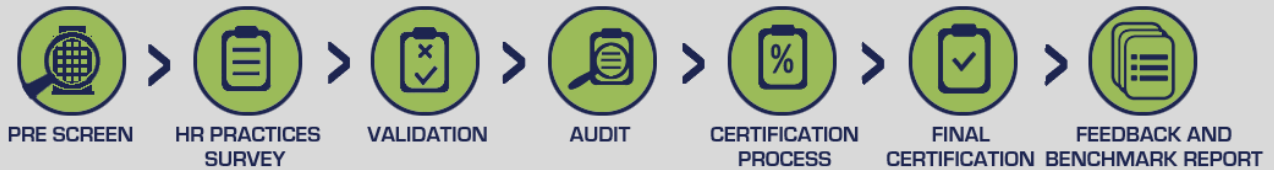
## Focus



### IREN IS 2018 TOP EMPLOYER

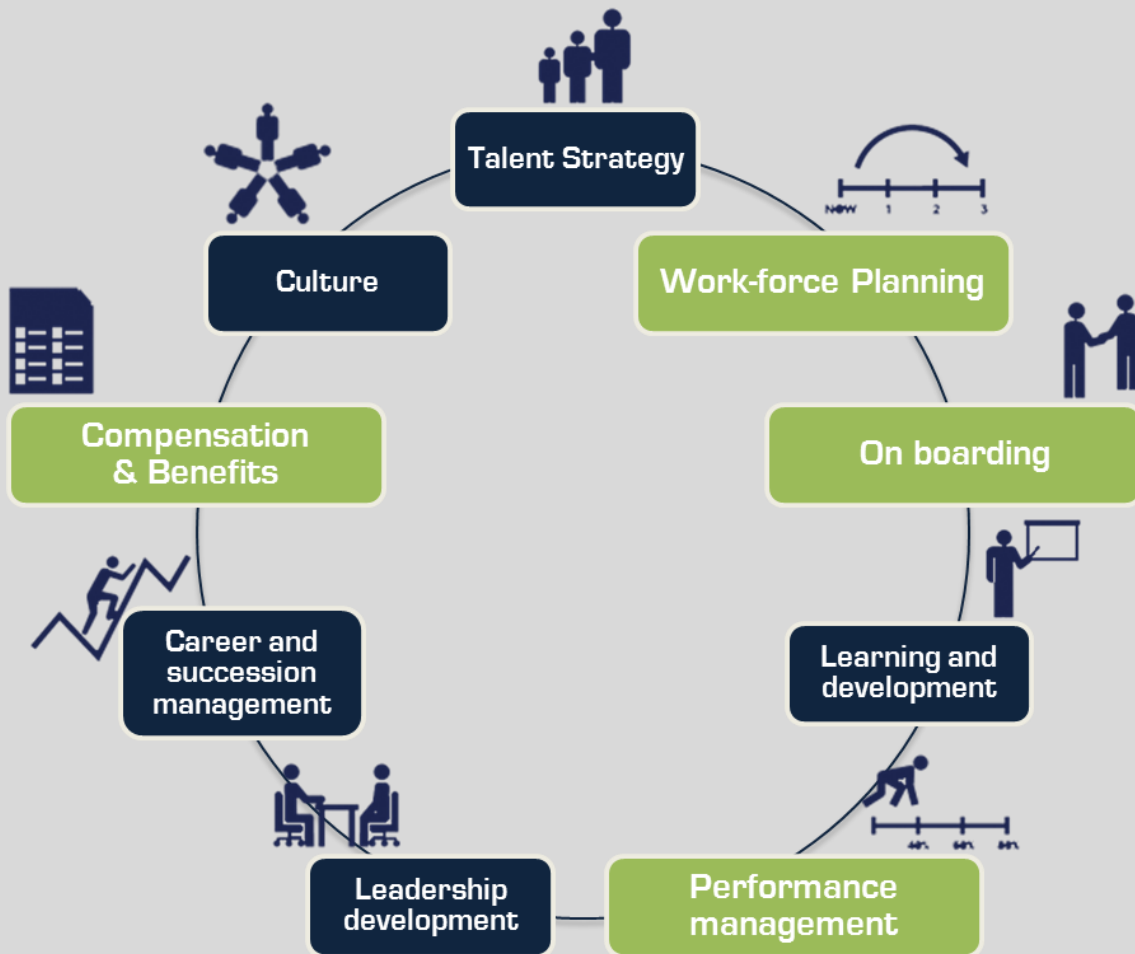
The Top Employers Institute is an independent organisation that examines and analyses the working conditions and job offers of major companies around the world and evaluates them according to recognised international standards. The annual research conducted by the Top Employers Institute certifies the best companies in the HR field (Human Resources).

### THE CERTIFICATION PROCESS



### THE ANALYSIS ELEMENTS AND STRENGTHS OF IREN

The certification is the result of an analysis, carried out with independent methodology, on 600 elements related to processes developed and processes to be developed, included in the Business Plan to 2023. The analysis recognised the strengths of Iren Group (hereinafter represented in the green boxes), which demonstrate its leadership in the field of Human Resources and its continuous commitment to improving policies and best practices.



# Suppliers



## IMPORTANT TOPICS



Sustainable management of the supply chain



Impacts on local areas (suppliers)



## POLICIES FOR SUPPLIERS

Iren Group considers its suppliers to be an integral part of the sustainability process. The goods and services purchased impact the quality of the services and the reputation of the Company.

The Group implements a structured procurement process that is in line with the principles of free competition, equal treatment, non-discrimination, transparency, proportionality and publicity in the instance provided by law, as well as inspired by the traceability of information, using suitably profiled IT systems, and the division of tasks. Furthermore, the Group procurement procedure has been prepared in line with the principles of the Model pursuant to Italian Legislative Decree 231/2001.

The Group's online Procurement Portal, through which public procedures and procedures for invitation to tender are managed, and the Suppliers' Register, divided into product categories, which are functional to business needs, are initiatives that allow for better monitoring of the supply chain, which is a strategic aspect in the management of Group business activities.

*The Group Procurement Portal is an instrument that extends the involvement of suppliers*

The adoption of the Procurement Portal constitutes an important opportunity for economic operators interested in becoming suppliers of the Group, increasing opportunities for involvement. To guarantee absolute transparency and disclosure concerning engagement rules, the rules for admission to the Suppliers' Register, the participation rules for managed negotiation events and the general conditions of use for the platform are published on the Portal.

## QUALIFICATION, SELECTION AND MONITORING OF SUPPLIERS

The supplier qualification system of the Group aims to guarantee that products, services and works are able to ensure quality and reliability. The Group's supplier selection and management process is based on the principles of transparency, clarity, integrity and non-discrimination. In addition to qualitative aspects, those relevant to sustainability are also considered in the qualification process, with particular attention given to socio-environmental topics and the implications arising from the Code of Ethics of Iren Group. It is of primary interest to the Group that all suppliers conduct their activities in compliance with the principles and values contained in the Code of Ethics, which must be obligatorily accepted by all suppliers, without the possibility of exceptions or amendments.

Within the context of contracts that are subject to the Code for Public Procurement, Article 30, "Principles for awarding and executing contracts and concessions", requires economic operators to respect environmental, social and labour obligations when carrying out works, which are established by European and national legislation, by collective agreements or the international

provisions listed in annex X, which include: ILO Convention no. 29 on forced labour, ILO Convention no. 105 on the abolition of forced labour, ILO Convention no. 138 on minimum age, ILO Convention no. 182 on the worst forms of child labour. Explicit declaration of compliance may be requested in tender documents. Based on the general requirements of the Contracts and Concessions Law concerning the exploitation of labour, Iren Group applies the regulations both for public tenders and tenders not covered by Law. Any non-fulfilment constitutes grounds for terminating the contract.

Within public contracts for amounts of community interest, supplier selection is carried out, for each tender, by indicating the requirements of economic-financial and technical capacity in the calls, which are directly linked to the activity to which the call refers. These are requirements that must be proportional and such as to ensure competitiveness, according to the regulations in force. Furthermore, it is also possible to establish qualification systems for the tender notice by publishing a community notice. After the selection has been made using the qualification systems, negotiated procedures can be carried out, in accordance with the protocol defined by the founding regulations of the system.

With reference to awards that are attributable to excluded contracts (so-called under-threshold), or irrelevant to the contracts and concessions law, Iren Group uses supplier qualification procedures that consists of a specific questionnaire subdivided into sections concerning the company profile (attesting to information on turnover, certificates, etc.), information on economic-financial capacity (balance sheet indices) and information on organisational-operational data.

Current provisions require that at least 5 suppliers from those included in the Suppliers' Register are invited, the management of which is centralised in the Parent Group Iren.

The qualification to be part of the Suppliers' Register requires the verification of being in possession of, or in the course of attaining, the certifications issued by independent bodies (i.e.: ISO certifications, the SOA certifications, etc.), as well as the possession of the economic eligibility requirements of the tender. During the qualification process suppliers are required to state:

- if, in line with UNI ISO 26000 guidelines on corporate social responsibility, company initiatives to develop a socially responsible approach to business planning and management have been identified and, if so, to describe the initiatives adopted;
- if the supplier publishes its Sustainability Report and, if so, to indicate where it can be found, or to attach a copy or excerpt of the significant sections;
- if the supplier is willing to carry out a CSR Audit, in the instance it were to sign one or more contracts with the Group, and if it is willing to complete a "CSR Questionnaire" (see page 120);
- not to have committed serious breaches, which have been definitively ascertained, against obligations concerning the payment of taxes and duties, or social security contributions, in accordance with Italian legislation or that of the State of establishment;

- not to have committed serious violations duly ascertained against occupational health and safety laws.

In regard to supplier top management, within the context of public procedures, the lack of criminal convictions is also verified (by indirectly consulting their criminal record and record of offence related administrative sanctions) which, by nature and severity, entail the exclusion from contracts and sub-contracts (including offences related to safety, the use of child labour, etc.).

### CSR survey of suppliers (2018 edition)

Iren Group launched its second Corporate Social Responsibility survey on 2,978 suppliers via a questionnaire aimed at analysing how environmental policy, labour practices, business ethics and respect for human rights were managed.

Overall, 779 suppliers responded to the questionnaire (26.1% of the total). A summary of the results can be found below (for more information see page 120).

- Certifications:** 37.0% hold Environmental Certifications, 33.5% Occupational Health and Safety Certifications and 11.8% Corporate Responsibility and Business Ethics Certifications.
- Code of Ethics and/or Conduct:** is adopted by 49.1%(46% in the 2017 survey).
- Environmental Policies:** 48.5% (43% in 2017) adopt formal environmental policies. Only 0.6% had been subject to legal proceedings or been charged for breaches to environmental legislation and/or regulations in 2018.
- Labour practices:** 73.2% (70% in 2017) adopt human resources management policies. In 2018, respondents hired 1,227 employees (42% on permanent contracts, 38% under 30 and 42% women) and employed 5,621 workers for jobs carried out for the Iren Group. 1.4% had been subject to legal proceedings or been charged for breaches to work practices regulations.
- Human Rights:** 55% (51% in 2017) adopted structured policies on compliance with human rights (see page 44).
- Business Ethics:** 70.6% (49% in 2017) have structured specific business ethics policies. 1.3% had been subject to legal proceedings in the last 5 years for reasons concerning business ethics or administrative liability, pursuant to Italian Legislative Decree 231/2001.

Lastly, 47.4% of respondents adopt a policy that obligates their suppliers in regard to sustainability.

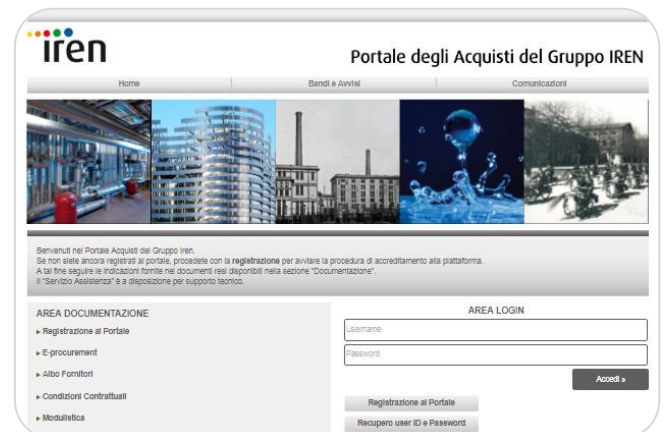
Together with the Prefectures of Reggio Emilia, Parma, Piacenza, Genoa and Turin, Iren Group has also executed "Legality Protocols" that aim to expand monitoring of enterprises in terms of the anti-mafia laws, even beyond the cases envisaged by law. Furthermore, certain budgetary indicators are acquired via companies specialising in commercial information (both for

corporations and partnerships) which contribute to determining the supplier's score for qualification purposes.

### Legality protocols signed with the Prefectures for broader monitoring of supplier companies




Qualified suppliers that have been awarded a tender are assessed by the internal departments that manage contracts and directly monitor the conduct of the supplier when carrying out the contracted works. This assessment generates a score, which is added to the qualification score. Any continuous negative outcomes or serious failures in executing the work, of which the Procurement, Logistics and Services Department is notified, will lead to the suspension and subsequent exclusion from the Suppliers' Register for a set period.



In 2018, 2,437 suppliers were audited in total, 1,869 of which qualified. There are 220 qualified suppliers in the Environmental sector and 154 in the Safety sector.

Compliance with the provisions related to the environment from contractors and subcontractors is required in the specifications. Furthermore, in regard to products, the Group promotes the selection of recyclable, renewable materials that minimise waste production and favour production systems with a low environmental impact. Some technical specifications also provide for the purchase of fair trade products. Goods are tracked when the specifications require that they are sourced from a specific location.



*Through qualification procedures, Iren Group also assesses the social and environmental profiles of suppliers*

The rules for admission to the Suppliers' Register also provides related to the suppliers of goods and services with potential environmental impacts (suppliers of environmental services connected to the collection, transport, recovery and disposal of waste; remediation of soil and subsoil, etc.) for the possibility of carrying out audits to verify compliance with applicable environmental laws, if any, conducted by qualified third parties. To this end, the following evidence is requested during qualification procedures:

- possession of ISO 14001 Certification (issued by Accredia or by another accreditation body that is a signatory of Mutual Recognition Agreements), or the acquisition of significant interrelated elements of the environmental system;
- possession of EMAS certification;
- possession of an Environmental Product Declaration – EPD;
- possession of energy management systems in compliance with the ISO 50001 standard;
- possession of one or more environmental labels (EU Ecolabel, FSC, PEFC, Plastica Seconda Vita, ANAB – ICEA, Natureplus® Certification, CIC Compostability);
- the use of products from one or more of the labels mentioned above in the production/service process, or of another label that highlights a focus on lowering the environmental impact;
- the use of suppliers holding ISO 14001 and/or EMAS certification in the production/service process;
- the use of work instructions that govern the management of waste, including hazardous waste, packaging and packaging waste in the production/service process, from their temporary storage to their disposal within the contract;
- the use, with reference to the categories of products selected, of recycled or recyclable material, with low emissions and low energy consumption;
- the adoption, with reference to the categories of products selected, of specific procedures for the storage and collection of recyclable materials in order to guarantee recycling;
- the availability, with reference to the categories of products selected, to recover or retain packaging after delivery to be reused and to decommission products to be replaced with proof of their disposal through the recovery of the material.

In 2018, 1,869 suppliers were qualified in total. Of these, 376 demonstrated the possession of at least one of the environmental profiles given above. Furthermore, additional environmental profiles are assessed via some category-specific questionnaires that require the compliance of the product/service with minimal environmental and rewarding criteria defined by the Ministry of the Environment.

Over the year, 129 new suppliers were selected on the basis of environmental criteria.

The most important activities carried out in 2018 to improve supply chain management include:

- submitting the assessment forms to the contract managers for the monitoring of performance/supplies;
- beginning to integrate provider information for the automatic acquisition of balance sheet indices;
- the monitoring and updating of supplier information, specifically with regards to the expiration of the documents uploaded to the portal;
- an increase in competitiveness during the engagement stage for suppliers tendering, thanks to the substantial increase in qualified operators.

Thanks to the integration of company systems and special reporting tools, these activities have enabled the process to be improved.

Membership to the Iren Group Suppliers' Register means beginning a partnership that could, over time, provide for the identification of mandatory qualification profiles, with a view to improving the supply chain that Iren Group intends to use. It also means sharing the reputational and sustainability values that make up the fundamental elements of Group policy. These commonalities involve the willingness to report on the CSR profiles, with a view to rewarding the willingness shown and acted on.



## EMPLOYMENT IN SUPPLIER COMPANIES

Iren Group is aware of the important role employment plays in ensuring the social development of the environment in which it operates. It contributes to maintaining employment levels not only through its own employees but also by promoting the development of the Companies to which it commissions services and work, by requesting guarantees from them in terms of both personnel and safety policies through the application of some of its own standards. Moreover, the Group often offers employees of supplier Companies the possibility to use some of the company services and attend training courses organised by the Group itself.

Particular attention is paid during the assessment stage of compliance with the regulations relevant to the correct application of the employment contracts and the payment of the relevant mandatory insurance and social security contributions; the specifications provide for the obligation of the supplier to comply

with the laws concerning the protection of the workers and the National Collective Labour Agreements in force and applicable to the sector of reference. These obligations are controlled through the regular acquisition of DURC (statement of correct fulfilment of welfare contribution obligations) and the documents provided by occupational safety legislation (SOP and DUVRI - single document on the assessment of risk from interference). In the case of non-compliance with remuneration and social security contributions, the laws of alternative means are applied, meaning employees and social security funds are paid directly and these amounts are deducted from the amount paid to the contractors. Subcontracts are also authorised and monitored in compliance with the law. Specifically, please note that in regard to Contact Centre services, the awarding tenders state that the personnel costs not be lowered. In order to participate in the public tenders of Iren Group, companies must comply with the obligations provided by Law 68/1999 concerning the recruitment of disabled people. All the Group's specifications include clauses designed to control the problem of undeclared employment, with regard to tendering and subcontracting.

During qualification procedures for the Register, and concerning information on operational and organisational capacity, companies are requested to indicate the number of employees on permanent and fixed-term contracts and to specify the ratio of permanent employees to the total number of employees, a ratio that increases the score in a directly proportional manner.

For tenders, the contracts of the Group state that the contractor is responsible for complying with current sector legislation. As the contract is characterised by the assumption of the responsibility to achieve a result, the contractor is entrusted to organise the means and workforce needed to attain said result. For this reason the number of employees hired is not requested. If an obvious anomaly were to become apparent when verifying the sustainability, the cost of the workforce employed to carry out the tender would also be investigated.



## SUPPLIER HEALTH AND SAFETY

Health and safety are the cornerstones of Iren Group's policies and, for this reason, specific measures to protect the health, safety and hygiene at work are also required by tender contracts. During the supplier evaluation phase, information on accidents that the company has recorded in the last three years is requested via the general questionnaire on the Procurement Portal. In addition to the

CSR survey conducted on suppliers (see page 120), it emerges that, in relation to the activities carried out for Iren Group, in 2018 only 1.5% of suppliers had instances of accidents and only 2.6% had cases of illness. During qualification procedures for the Register, suppliers are investigated also on the following aspects:

- the existence of a Prevention and Protection Service, either within or outside of the company;
- the appointment of a Safety Contact that deals with individual contracts/orders;
- whether it has benefited from an INAIL tax reduction (ref. MOD OT24) at least once in the last three years;
- the existence of an Occupational Health and Safety Management system certified in accordance with Article 30 of Italian Legislative Decree 81/08 and, if so, it is requested to specify if it complies with the UNI-INAIL guidelines or the OHSAS 18001 standard;
- systematic verification of the level of learning reached by each worker after every training event;
- the integration of Italian language courses within foreign workers' training.

Furthermore, the Group carries out monitoring and control inspections on the activity carried out by the personnel of third-party companies working on construction sites and in plants, related to aspects of safety and hygiene at work. Monitoring of the activities is guaranteed by internal supervisory inspections by the Works Management (contracts pursuant to Article 26 of Italian Legislative Decree 81/2008) or by the Coordinator during the execution (on temporary and mobile construction sites pursuant to Title IV of Italian Legislative Decree 81/2008). For auditing contracted companies, the activities dealt with by the technical departments were identified and integrated into the relative procedures and/or defined as general procedures.

## TRAINING AND INFORMATION ACTIVITIES

During 2018, at a Group level a total of 1,000 hours of training/information activities were provided to third-party companies, and not exclusively related to occupational health and safety, with the involvement of 171 members of staff from these companies. Regarding occupational health and safety initiatives, comprehensive information has been given on the working environments (for example, jobs in confined spaces) and on the emergency and prevention measures adopted.

## SUPPLIER PORTFOLIO AND PURCHASE VOLUMES

In 2018, purchase orders were issued to 3,679 suppliers for over 725 million Euro.

## IMPACTS ON THE LOCAL AREA

Sourcing of suppliers in the local areas of reference is well-established, both in terms of the number of active suppliers (51%),



as well as the economic value of the orders, amounting to 38% overall. This data highlights the importance of the effects of the Iren Group on the territorial areas of reference.

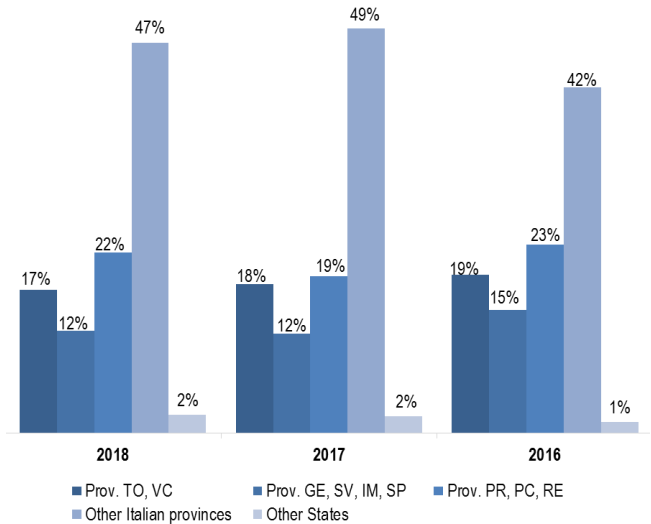
Within the context of public tender procedures, in compliance with current legislation and Community principles, marked by the criterion of free movement of goods and people, which requires that all companies can compete, no matter their location, the Group does not select suppliers by geographical origin, but on quality and economic criteria, favouring the best value for money as the determining factor. In order to guarantee an adequate level of competition, where feasible, it arranges the tender into functional lots, so as to allow separate awards and greater participation by economic operators, including those that are small and medium enterprises.

Nonetheless, with reference to the instrumental tenders, which are carried out via invitation, or irrelevant to the Contracts and Concessions Law, Iren Group reserves a 50% share for local economic operators with suitable qualifications that are present in the Register when identifying the panel of qualified suppliers to invite to the tender. This measure aims to favour local development and, consequently, social cohesion.

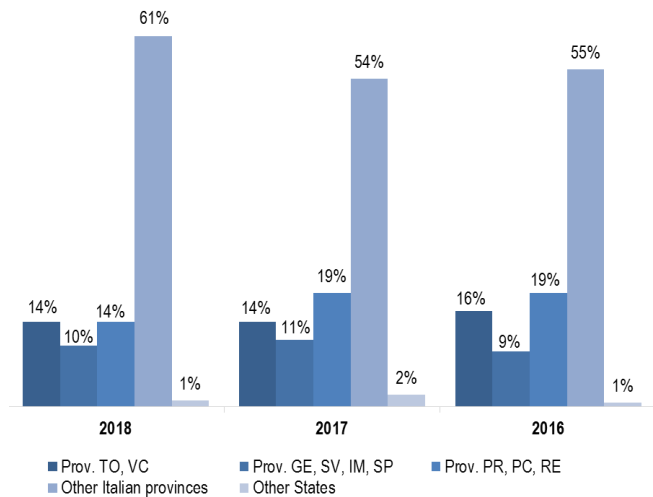
The economic impacts on local business generally occur due to subcontracting to local companies, within the limits allowed by law, that are able to work on a portion of the activities and apply more competitive prices given that they are already present in loco and guarantee efficient services due to their knowledge of the area.

In relation to the large number of suppliers by geographical area and the relevant volumes ordered, the composition is represented below and refers to all purchases with exclusion of contracts for the supply of raw materials.

**SUPPLIERS PER GEOGRAPHICAL AREA (% OF NUMBER)**



**SUPPLIERS PER GEOGRAPHICAL AREA (% OF EURO)**





## SOCIAL COOPERATIVES

The Group supports social cooperatives that place the incorporation of disadvantaged people within the world of work as their main task. These enterprises work in waste collection and environmental health services in particular.

Within the general qualification questionnaire, suppliers are asked if the company's main purpose is the social and professional integration of disadvantaged people or those with disabilities (pursuant to Article 4, subsection 1, Law 381/1999 "Social Cooperatives Regulation").

38 social cooperatives are present on the Procurement Portal as qualified suppliers, amounting to 2% of all qualified suppliers. Of these, 28 have worked with Group companies in 2018.

The overall order amount to social cooperatives was approximately 41 million Euro, representing 5.6% of the total value of Group orders. The order trends can vary significantly from one year to the next in relation to the signing of multi-year contracts, including ones for significant sums.

Social cooperatives	2018	2017	2016
Suppliers (no.)	28	28	35
Orders (Euro)	40,865,614	60,520,587	41,653,283

## DISPUTES

In 2018, the Group definitively lost eight cases against suppliers, which led to a total disbursement of 11,160 Euro.

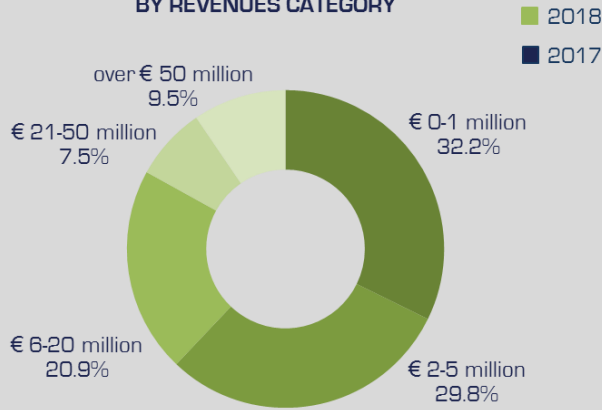




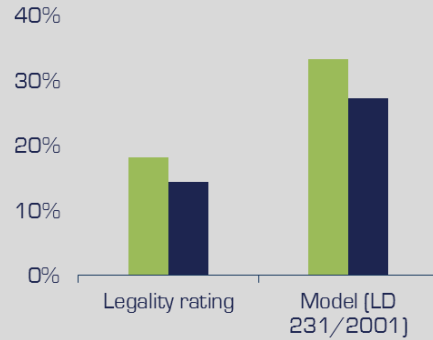
## FOCUS

A survey on the Corporate Social Responsibility of suppliers, which was conducted by Iren Group in 2018, was distributed to 2,978 qualified suppliers. Of these, 779 suppliers responded to the questionnaire, which analysed aspects of environmental policy, labour practices, business ethics and respect for human rights.

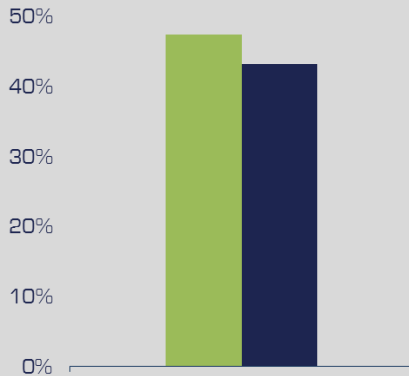
**SUPPLIERS INVOLVED IN THE CSR SURVEY BY REVENUES CATEGORY**



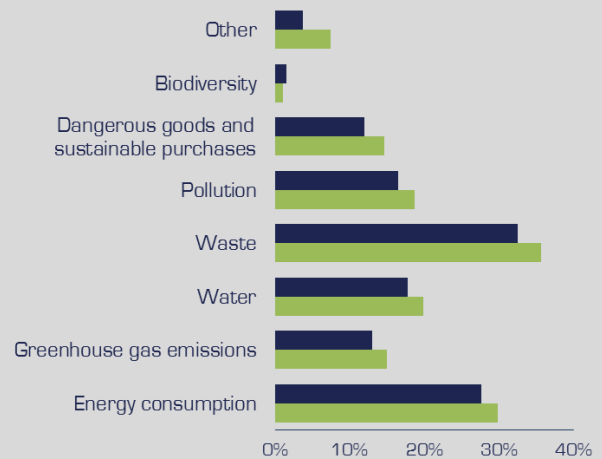
**SUPPLIERS' BUSINESS ETHICS**



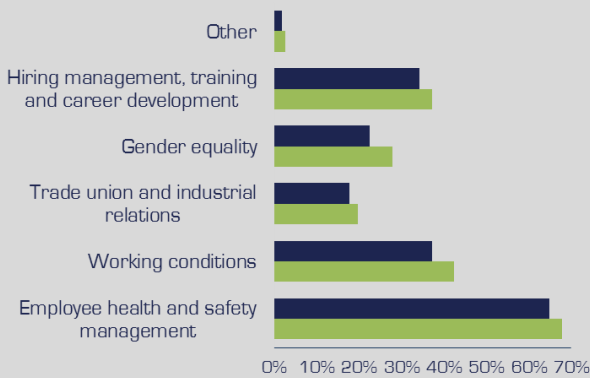
**ADOPTION OF A POLICY COMMITTING THE SUPPLIERS ON THE THEMES OF SUSTAINABILITY**



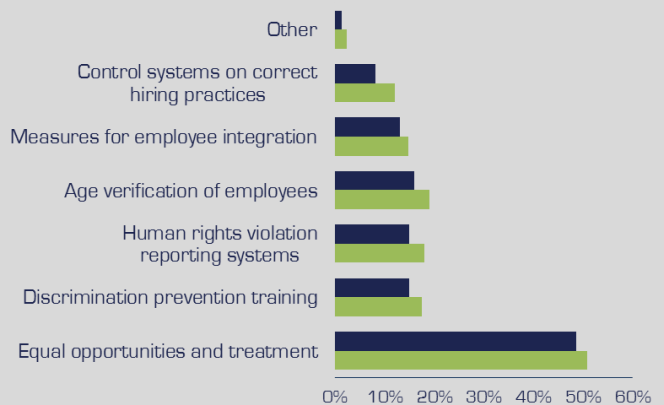
**FORMALIZED ENVIRONMENTAL POLICIES OF SUPPLIERS**



**SUPPLIERS' FORMALIZED POLICIES ON HUMAN RESOURCES MANAGEMENT**



**SUPPLIERS' FORMALIZED POLICIES ON HUMAN RIGHTS**



# Community, Territories and Institutions



## IMPORTANT TOPICS



Development of local communities



Management of emergencies



Management of construction sites



Internal and external communication



Dialogue with Public Authorities



Fight against corruption



Compliance with laws and regulations



## FOCUS ON COMMUNITIES AND THE LOCAL AREA

The great importance of local communities for Iren Group is also highlighted in the Business Plan to 2023, which includes sustainability amongst its strategic guidelines for growth. Indeed, the Group is committed to promoting a new model of territorial development concentrated on process and product innovation, social innovation and the satisfaction of the reference areas. A significant portion of the investments outlined in the Business Plan is intended for the development of the local areas in the provinces in which the Group operates, generating a significant boost in the growth of local economies with positive impacts in social, economic and environmental terms. Furthermore, around 50% of investments envisaged in the Plan are for environmental sustainability initiatives.

### IREN LOCAL COMMITTEES

The Local Committees play a part in the Group strategies aimed at generating positive impacts for the local area. These are bodies which have been established to strengthen relationships with the local areas, analyse them and anticipate needs, encourage innovative environmental and social initiatives, increase widespread awareness of strategies and services offered, guaranteeing broad representation of the various realities of civil

society and engaging Iren Group top management in dialogue with its stakeholders.

Committees are also a work instrument for collecting the ideas and proposals of citizens via the *Irencollabora.it* platform, in order to plan new sustainable development solutions, enhancing the experience, knowledge and skills of local communities to create shared value and generate growth for the Group and for the areas in which it operates.

The Committees are made up of 15/18 members, the representatives of Local Bodies and Associations, who offer voluntary and free participation. In addition to the above, there are 5 ex-officio members: a representative of the Municipal capital, a representative of the provincial Municipalities, a representative of the local University, Iren Chairperson and Deputy Chairperson.

Working groups are established within each Committee to follow the activities to guarantee the best implementation of the projects proposed by the same members of the Committees or by citizens via the on-line platform *IrenCollabora.it*. It is the first example on a national level of a participatory planning platform, where citizens can suggest ideas on the issues dealt with by the Committees, with the aim of generating concrete and tangible projects.

In 2018, 12 projects regarding environmental, social and educational issues were incubated by the Committees of Piacenza, Parma, Reggio Emilia, Turin and Genoa. Two of these were carried out during the year, while the others are currently being developed.

Currently, the Local Committees have implemented 29 projects that can be viewed on the [www.irencollabora.it](http://www.irencollabora.it) platform.

### PROJECTS CREATED IN 2018

Project (proponent)	Local Committee	Description
<b>Detenuti per l'ambiente - Prisoners for the Environment (Federconsumatori Reggio Emilia)</b>	Reggio Emilia	The project aimed to increase the levels of separated waste collection within Reggio Emilia prison, where there are almost 350 prisoners, while also offering job training to a certain number of them. Iren trained the personnel and the prisoners subject to a part-time detention scheme who carry out the daily collection, set up the external collection point, provided the necessary equipment and produced multilingual information material.
<b>Good practice manuals in several languages (Change Eventi - SUQ Genova)</b>	Genoa	Raise the awareness of citizens concerning good daily practices and sustainable and responsible behaviour, via a quick and educational manual, presented at the 20th Suq Festival – EcoSuq and translated into English, French and Spanish for the main communities living in Genoa. Practical advice and suggestions able to educate people about a sustainable future and reduce the environmental impact of everyday life.
<b>Energy and water bonus (Consumer Associations)</b>	Genoa	Concerning the emergency of families in financial difficulty in relation to paying their energy bills, the first aspect on which to intervene quickly has been identified: the diffusion of information concerning social electricity and gas bonuses. In 2018, specific information material that also concerned the new water Bonus was distributed to a network of 70 information points, including Tax Assistance Centres (CAF) and citizen's counters.
<b>Studia, smonta, aggiusta, ricicla, differenzia" - Study, dismantle, repair, recycle, differentiate (Mattei Institute of Fiorenzuola)</b>	Piacenza	This is the winning project of the 2017 AmbientAzioni competition which was fully implemented in 2018 with the construction of a service centre for the repair of small electronic-electric devices at the Mattei Institute of Fiorenzuola. The workshop repairs and recovers disused and discarded goods that are removed from the waste circuit and put back into circulation for the benefit of vulnerable parties. The project is also a learning opportunity for students who are involved in a combined school/work courses.
<b>Parma non spreca - Parma doesn't waste (Solidarity Forum and Kuminda Association)</b>	Parma	The multi-year project grew out of the need to meet the increasing requests for help from families in financial difficulty in Parma and the province. 2018 was marked by two new developments: the collaboration with the Iren Group cafeteria for the recovery and redistribution of unconsumed meals and the purchase of a new vehicle for the collection and delivery of food.

Project (proponent)	Local Committee	Description
<b>Campioni si diventa - Becoming Champions (108IA2 Lions District in Genoa)</b>	Genoa	The project, now in its second year, has launched the sports practices for 55 children between the ages of 10 and 16 who come from families in financial difficulty, which were identified by the Social Services of the Municipality of Genoa. The Italian National Olympic Committee (CONI) contacted local sports association to allow the sports to be practised for free. The Lions District has acquired the necessary medical certifications, organised meetings in schools and sourced sports clothing and equipment for the participants. The Genoa Local Committee has made available the resources for insurance and part of the equipment necessary for the young people to practise sports.
<b>Ri-Cibiamo. Chi ama il cibo non lo spreca - Eat 2x, People who love food don't waste it (PiaceCiboSano)</b>	Parma Piacenza	The project promoting a culture of food waste prevention continued. In 2018, activities were aimed at consolidating and strengthening the network of responsible restaurants who participate in the project, including by devising a communication campaign that will be run in 2019. The "Sei uno chef antispreco?" (Are you a chef against waste?) competition and the first "Sustainable Aperitif" hosted by the winner of the competition were also organised.
<b>Environmental development of pruned urban vegetation (University of Parma)</b>	Parma	Pruned urban vegetation is made use of thanks to technology that converts the lignocellulosic component in carbonic material (biochar), which then acts as a soil improver. In 2018, biochar from pruned wood chips was tested to assess its use as a soil improver for herbaceous crops. Thus, a second experimentation stage was started with prunings from tall trees in the Cittadella of Parma, for the production of biochar to be used in crops of floral and ornamental interest. The project was also presented at the 2018 Festival of Sustainable Development.

### PROJECTS IN DEVELOPMENT IN 2018

**FCR Reggio Emilia Città senza Barriere** (FCR Reggio Emilia City Without Barriers). Three projects, proposed by Farmacie Comunali Riunite (United Municipal Pharmacies) within the "Reggio Emilia Città senza barriere" (Reggio Emilia City without barriers) project, involving the Reggio Emilia Local Committee. Verso notte di luce 2018: Towards the Night of Light 2018, an event dedicated to inclusion and integration, for the International Day of People with Disabilities, which had music and education about differences as its central theme and involved 80-100 classes of primary school children in workshops activities in preparation for the evening. Art Factory all'ex Maffia: Art Factory at the former Maffia, an illustration, street art and permanent graphics workshop; a place where talent and creativity can be developed and people with disabilities can work with artists to create events and communication campaigns. Workshop on integration and creative reuse: an initiative, open to the city's children and families, for creating musical instruments with recycled materials and waste.

**Protected Accompaniment.** Proposed by AUSER Genova, the project aims to support the Protected Accompaniment service, which is essential for all people who are not able to move independently. The scope of the service is to ensure that dependent and disabled people can attend social and health facilities and centres, as well as maintain an acceptable level of socialisation and inclusion for people who would otherwise be forced to endure loneliness and isolation. The Genoa Local Committee is committed to providing infrastructure and an electric vehicle to manage the service, thereby combining social and environmental sustainability.

**Via Ferro Multi-functional Centre** – S. Egidio. Community. The Community of S. Egidio has been given a building by the Municipality of Genoa, which is to be used for activities that support the more vulnerable sections of the population (specifically, people in financial difficulty), such as social cafeteria, and the collection, storage and distribution of blankets, jackets and shoes. The project includes collaborative activities for the structural interventions that

are required to extend the services offered by the Community and to start new initiatives that are to be implemented for the Multi-functional Centre, thanks to collaborations with the Associations/Bodies present in the Genoa Local Committee.

**La Tribù** (The Tribe). Presented by Bet She Can, a foundation dedicated to empowering young girls, the project is a multi-stage process, aimed at 20 girls aged between 8 and 10 years, helping them develop an understanding of who they are, what their potential is and raise the awareness of families, institutions and communities. "The tribe" is a place of meeting, discovery and fun. The exploration of the area and interaction with residents allow it to convey the message of equal opportunity, possibilities and freedom of choice to the whole community also. There are 12 stages planned with laboratories scientific/technological workshops, meetings-testimonials from women with innovative professional or personal paths in settings that are commonly considered to be "male".



**Dilemma.** Proposed by the Cibopertutti/Kuminda Network, this is a training project based around play for children aged over 14. It aims to stimulate reflection on the often dichotomous relationship between competition and cooperation, both at a personal and a social level, encourage the analysis of social, environmental and economic issues, and meet the local organisations and territorial



networks involved in the issues being considered. The topics presented during the game are in line with the UN's 2030 objectives for the sustainable development of the planet. In 2018, the game project was developed, which won the Special Culture Award at the Er.Si Innovatori Responsabili (Responsible Innovators) Competition of the Emilia Romagna Region.

**Villa Ronco City Garden.** The project, proposed by ARCI Genoa, aims to redevelop the spaces of the Gardens of Villa Ronco, via the creation of an educational, city garden. Thanks to plots of land being placed in the care of citizens who request it, and establish collaborations with the surrounding schools, the Central-West Family Service Centre and the services (nursery and daycare centre) present at Villa Ronco in order to design educational pathways and meetings for exchange and socialisation between young people, the elderly and the neighbourhood. The aim is to create a network of local institutions, schools and associations and citizens who actively care for and use the Villa Ronco gardens, which are now barely used, ensuring that the space is maintained, the land is cultivated, and social activities, the dissemination of "good practices" and sustainability education are nurtured.

**Signs for children for the historical aqueduct in Genoa.** The project, proposed by the Luzzati Foundation, aims to enhance the historical aqueduct of Genoa, an ancient architectural structure that has guaranteed the water supply of the Ligurian municipality and its port for centuries. Following participatory planning that sees children as the protagonists, the project aims to devise and create an itinerary suitable for children with signs, designed and built in collaboration with the Faculty of Architecture of the University of Genoa, made up of explanatory panels and game panels that can be used along the path.

**#lorestaurocongenovacultura (#restorewithgenovaculture).** The renovation of the Barchile fountain in Piazza delle Erbe in Genoa was the first chapter of the #lorestaurocongenovacultura project that entailed the identification of monuments to restore, respecting the historical and artistic situation of the place and its evolution over time, through a conservative approach with non-invasive work. Once the necessary funds have been collected to restore the Barchile, the project envisages circumscribing and illuminating the monument. The Genoa Committee is preparing a call to competition aimed at young people and students for the submission of a project to create the artistic lighting.

**#conosceregestireilterritorio (#knowtomanagethearea).** The UNESCO MAB Reserves: platform for the sustainable development of communities. The project was established due to the public's lack of knowledge about the value of the landscape, and its local and ecological heritage. That is why actions to bring people closer and raise awareness that encourages the development of knowledge of residents in the area of MaBCollinaPo (Turin) have been planned: training courses aimed at the managers and employees of hospitality facilities in the area, a tour of the area and communication activities. In 2018, the project's communication campaign (brochure, website, Facebook) started and the planning for the training courses that will take place in 2019 began.

**Chiomonte S.M.A.R.T.** (Home automation at the service of the local area). Presented by the Municipality of Chiomonte and the

Chiomonte Imprend'Oc Association, the project aims to ensure the effective and responsible management of cultural and environmental heritage, encourage the development of tourism and improve the quality of life in the area. In 2018, a local information system was created, in collaboration with the Interuniversity Department of Regional and Urban Studies and Planning (DIST) of Turin, aimed both at exploring scenarios of urban planning and management, and at the technical and economic validation of the most significant initiatives. In 2019, the platform will be completed with new data added.



**Come Borgo  
Campidoglio**

**Una nuova storia**

**C = Come Borgo Campidoglio (C = For Campidoglio Hamlet).** The project aims to relaunch the Borgo Vecchio Campidoglio – the historic area of Turin – by actively involving different local companies to promote craftsmanship, enhance its history and, consequently, enhance the entire hamlet. The courses of action up to 2020 have been identified, which envisage the creation of a social communication campaign and the design of a participatory marketing plan (conception, start-up and trial). At the end of 2018, the project was officially presented to the public and co-design meetings were undertaken, in which craftsmen, artists and business owners from Borgo Vecchio Campidoglio were invited to take part in creating the participatory marketing plan.

**L'Ultimo Diogene (The Last Diogenes).** The project, presented by Chiara Comunicazione, aims to make a docufilm about Enzo "Màt" Sicuri, an eccentric figure who was much loved by the people of Parma and who lived "beneath the stars" from the 1950s to the 1980s, in extreme simplicity and collecting and recycling paper and other materials before it even existed as a service. The docufilm will also be shared via "educational" workshops in schools, associations and other organised groups in the area, in order to encourage reflection on: consumerism, to highlight unnecessary purchases; lifestyles, to get people to consider the use of energy in the home or on means of transport; separated waste collection, to check behaviour, identify difficulties and listen to suggestions.

**Restoration of the Forest of Fornace Vecchia.** Currently in a state of neglect, the forest is of particular natural interest due to its vicinity to the Nure stream (province of Piacenza) and the presence of rare and/or protected species, such as indigenous orchids and oaks in the dominant tree layer. The proposed intervention is to protect the wooded areas, pastures and dry bushes, restore the forests, paths, roads and recover the buildings in the area for educational and museum use. The recovered area will be made available to all nature lovers, schools and families who would like to take advantage of its places and spend a few hours within a natural river area. A pedestrian and cycling path will connect the town of Podenzano with the natural area, which has already been partly built.

## OTHER INITIATIVES OF LOCAL COMMITTEES

**AmbientAzioni competition.** The 2018 edition of the Competition, promoted by the Local Committee of Piacenza and aimed at local citizens and students, was aimed at designing instruments, actions and initiatives for saving water and energy resources, reducing waste production, reducing CO<sub>2</sub> in regard to mobility and the mitigation of the climate change to which the area is exposed. Participants were asked to submit innovative projects, that could be replicated in other contexts, with a budget that does not exceed € 30,000 and with demonstrable economic and social benefits for the community. The winning project was the “La manna dal cielo” (The Manna from Heaven), which aimed to recover rainwater from roofs to feed the irrigation systems of the G. Raineri Institute farm. The project combines circular economy reasoning with the social dimension of training and involvement of students and teachers. In

terms of replicability, the expertise and techniques applied by the Institute will be disseminated and made available to local farms.

Once again in 2018, Iren Local Committees were the sites of analysis and dialogue between Iren Group and the stakeholders on: the 2017 Sustainability Report, the 2017 customer Satisfaction survey, the update of the Iren Business Plan and the assessment of relevant topics to conduct materiality analysis for the preparation of the 2018 Sustainability Report.

## PROJECTS FOR THE LOCAL AREAS

In 2018, Iren created or contributed to the creation of important environmental, social and cultural projects. Some of these had significant importance on the local areas in which they were executed.

Areas	Projects
Environmental	<ul style="list-style-type: none"> <li> <b>Separated waste collection:</b> specific communication campaigns were designed and run, using different tools (bill posting, posters, buses, internet, social, etc.), in Turin, Vercelli and Piacenza in order to raise awareness among the population concerning correct separated waste collection and the fight against waste dumping. In Turin - in the province of Reggio Emilia -, Parma and Piacenza, various communication actions and the mass distribution of information materials have been carried out to support door-to-door collection systems: Waste separation brochure, pamphlets for families and businesses (also in different languages and environmental services guides. Specifically, various information meetings with the public were held in Reggio Emilia. In the Reggio Emilia and Parma area, dialogue was implemented with the foreign communities present in the city. In Parma, the Mini-Ecostations were inaugurated and “recounted” via a few videos, which are useful for making the door-to-door system even more flexible. Meanwhile, in the province of Reggio Emilia, 8 Ecostations (for non-separated waste, organic waste, paper, plastic and glass) and Mini-Ecostations (for non-separated waste and organic waste) have been installed, which can be used by citizens 24/7 by using the health card that is in the name of the customer.         </li> <li> <b>Collection points:</b> in Turin the focus of communication was placed on recoverable materials, bulk waste and hazardous urban waste, to encourage citizens to go to the AMIAT collection points. Bill posting, advertising in local newspapers, internet and posters distributed in the places most often passed by residents. In the province of Reggio Emilia, communication initiatives concerning the new computerisation services of the collection points have been run, with the aim of encouraging their use and reducing incorrect disposals, also via the activation of a reward systems at 22 new computerised collection centres.         </li> <li> <b>Neighbourhood Street-Cleaner:</b> in Parma, the launch of the “Neighbourhood Street-Cleaner” was also promoted via a specific video in the local dialect that illustrates the street-cleaning services provided throughout the city, which has been well received by online viewers.         </li> <li> <b>Junker App:</b> the new smartphone app, launched by the City of Turin and AMIAT, recognises with a single click what the citizen is throwing away and, using the geolocation, provides information on where to dispose of all kinds of waste.         </li> <li> <b>VENTo Bike Tour 2018:</b> Iren has supported the Polytechnic University of Milan’s project to build a cycling route of over 700 km along the banks of the River Po, an infrastructure that cuts through the Group’s historical territories and which is turning to these territories with extreme care to develop the green economy and green jobs.         </li> <li> <b>Public Water Dispensers:</b> new public water dispensers have been installed in the province of Piacenza and Reggio Emilia, which become an opportunity to raise awareness among the public, and school groups in particular, about the conscious use of water resources. At the end of 2018, there were 69 active dispensers in the Emilia Romagna area.         </li> <li> <b>Original music at Brugneto Lake:</b> a concert on the banks of Brugneto Lake, one of the biggest water reserves in the Liguria region, to promote eco-sustainable tourism and respect for the environment, to make the public aware of one of the most important plants Iren Group manages and enhance the water resource.         </li> <li> <b>Open plants and water:</b> the Reggio Emilia water plant was open to the public on 12 July 2018 for the “Blue Night”, which saw over 2,000 people take part. This was a chance to get a closer look at the functioning of the system that distributes drinking water around the city every day and a “fun” opportunity to talk about sustainability in regard to the use of water, for which a leaflet was produced and distributed to participants. Over the year, 25 public events hosted the Iren <i>Fontanone</i> fountain and the <i>Caraffone</i> pitcher, mobile structures that provide mains water to anyone who wants to use it. At the hydroelectric plant built in the Secchia river basin, between Castellarano and the hamlet of San Michele di Sassuolo, which was inaugurated in 2018, numerous school groups and citizens were welcomed and an ad-hoc information leaflet was made. The Water Treatment Plan was created in Mancasale (Reggio Emilia) (for more details see page 142).         </li> <li> <b>IrenGO:</b> this is the brand of products and consulting services for sustainable mobility, via which the Group has started to trial innovative economic models that follow current trends, such as the sharing economy. In the public sector, examples include the sponsorship of the first scooter sharing service in the city of Turin, while, in the corporate sector, the proposal of turnkey solutions for bike sharing and car sharing and carpooling projects. In order to spread the Group’s commitment, sustainable mobility presentations were organised in collaboration with Local Administrations in Turin, Piacenza, Genoa, Parma, Reggio Emilia, Vercelli and La Spezia.         </li> </ul>



Areas	Projects
Social	<ul style="list-style-type: none"> <li>• <b>Santa Claus with Forma:</b> With a donation and environmental health services, Iren supported the customary Christmas event that saw the participation of thousands of people dressed as Santa Claus, promoted by the Foundation of "Regina Margherita" Hospital, in front of the Children's Hospital.</li> <li>• <b>Just the woman I am:</b> Iren collaborated in the creation of the event by supplying electricity and taking part with its employees in the race, organised by CUS Torino for International Women's Day, aimed at gathering funds for university cancer research. The Iren team was one of the largest with 100 runners.</li> <li>• <b>Special Festival... for big and special singers:</b> this singing competition with a highly inclusive purpose was organised by Anfass Onlus La Spezia and supported by Iren.</li> <li>• <b>The game of the heart:</b> the initiative promoted in Genoa by the Nazionale Cantanti team aimed to gather funds for the Gaslini Children's Hospital and was supported by Iren via a donation and the purchase of 500 tickets for its employees.</li> <li>• <b>Tunnel of Light in Genoa:</b> after the collapse of the Morandi Bridge in Genoa, Iren wanted to support the business activities in the area affected by the disaster and so created a light path for the Christmas holidays, from the city centre to encourage people to move towards the area affected by the consequences of the collapse.</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>• <b>Archive Project:</b> the project, presented to the media and the public at an event at the Martinetto plant in Turin, also saw the creation of the <a href="http://www.irenstoria.it">www.irenstoria.it</a> portal, which allows everyone to consult archived and digitised historical material.</li> <li>• <b>50 years of AMIAT:</b> to celebrate the 50th anniversary of AMIAT, an ad-hoc logo was created in collaboration with La Stampa and citizens voted for the mascot: Taurino netturbino - the street-cleaning bull.</li> <li>• <b>Innovation:</b> Iren strongly believes in the strategic role of innovation and research in the Italian industrial scene. That is why it has supported the 2018 National Innovation Award and the regional "Start Cups" held in Emilia Romagna and Liguria, in the belief that the development and growth of its relevant business areas can only benefit from comparison and collaboration with innovative start-ups supported by solid business projects.</li> <li>• <b>Iren Star Up Award:</b> the second edition of the contest aimed at selecting the best Italian and international start-ups for future collaborations.</li> <li>• <b>The Energy of Words:</b> Iren has launched the 1st Italian competition of unpublished green-themed stories, aiming to discover talented writers among citizens and disseminate sustainability education via their literary contribution.</li> <li>• <b>Photomathon:</b> Iren supported the Photomathon in Genoa (April), Reggio Emilia (June) and Turin (September) proposing topics regarding the business that the company carries out in the various cities for the competition.</li> <li>• <b>Iren mecenate (Iren sponsor):</b> Iren shares the deep cultural values and their importance in the development of local areas. That is why Iren has been a founding partner of the main theatres in Northern Italy for many years: Royal Theatre Foundation in Turin, the Theatres Foundation in Reggio Emilia, the Carlo Felice Theatre in Genoa and the Theatres Foundation in Piacenza. It has also always supported the Royal Theatre in Parma.</li> </ul>

## GIFTS, DONATIONS AND SPONSORSHIPS

Iren Group focuses heavily on cultural, environmental and sports events that possess distinctive characteristics at a national level and which are rooted in the local tradition of the areas of reference.

In 2018, Iren provided 267 sponsorships, 82 of which were donations, amounting to over 9.5 million Euro. As part of the donations, the Art Bonus (worth over 3.6 million Euro) was used to support culture. The Art Bonus grants significant tax benefits in the form of tax credits.



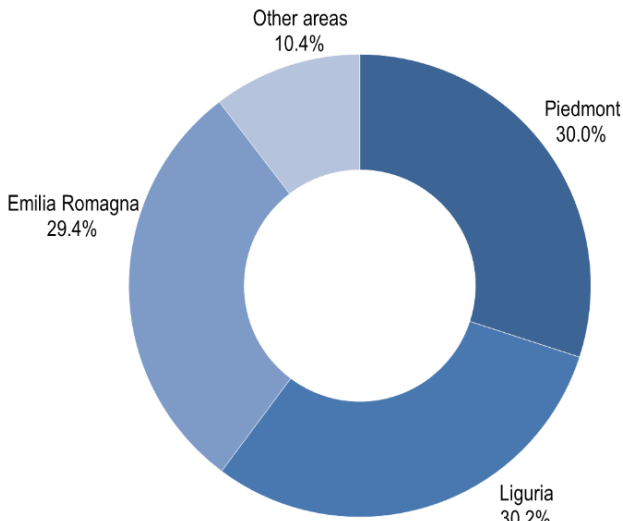
The interventions concerned:

- **75 cultural and innovation projects (59%),** including support for the Royal Theatre in Parma and membership to the Theatres Foundation of Reggio Emilia, the Royal Theatre Foundation of Turin, the Theatres Foundation of Piacenza and the Carlo Felice Foundation in Genoa, the National Innovation Award, the Emilia Start Cup and the Liguria Start Cup, the Science Festival in Genoa, the European Photography event in Reggio Emilia and the Festival Verdi in Parma, the illumination of the Chapel of the Holy Shroud and the Mole Antonelliana in Turin; the Expressionists Exhibition in Parma and the Hannibal Exhibition in Piacenza;
- **81 entertainment projects in the local area (24%),** including Christmas events in Turin (Luci d'Artista), Genoa (Tunnel of Lights), Reggio Emilia (Santa Claus' House) and Vercelli; New Year in the square in Reggio Emilia and Parma, Estate Spezzina summer event, Piacentini Fridays and Euroflora in Genoa;
- **46 projects in the environmental sector (5%),** including support for environmental projects of many Emilia Romagna Municipalities, 2018 VEnTO Bike Tour; Terra Madre Salone del Gusto gastronomy exhibition and CinemAmbiente in Turin, the Remida Centre in Reggio Emilia and the arrangement of playgrounds and small green areas in Piacenza;



- **38 projects in the sports sector (8%)**, including support for the seasons of some minor sports teams, such as hockey, sledge hockey, American football, men's and women's basketball, water polo and major national events like the World Volleyball Championships in Turin and the Final Eight Water Polo in Genoa;
- **27 projects in the social sector (4%)**, amongst which we should note the support for University Scholarships, the Piazza dei Mestieri Foundation, which promotes professional training for teenagers, and the projection on some monuments of the symbol of the Erasmus logo for Europe Day.

#### DONATIONS AND SPONSORSHIPS BY AREA

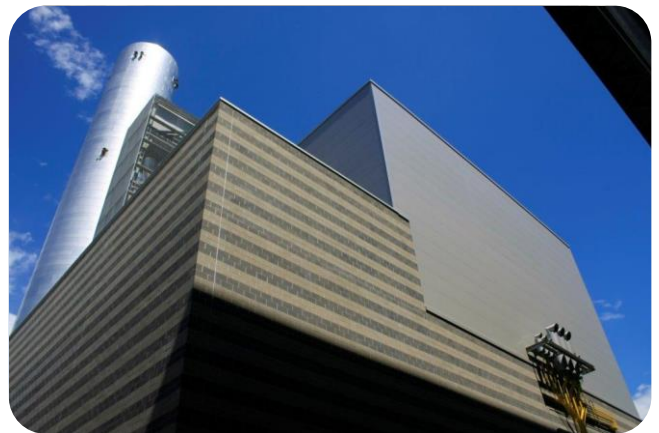


### REDUCTION OF IMPACTS ON THE LOCAL AREA AND COMMUNITIES

All of the Group's activities are planned and carried out with awareness of the corporate responsibility towards the communities and local areas: produce wealth while protecting the environment and respecting the expectations of the stakeholders. The Group adopts specific procedures for the prompt and effective communication in the event of faults, service interruptions and inconveniences caused to residents within the times provided by sector legislation. For activities within the electricity, gas, water and district heating sectors, the Group also complies with the guidelines specified by ARERA. In addition to managing compliance with legislation, Iren Group has developed voluntary codes and regulations (internal requirements and procedures) and adopted initiatives that mitigate impacts on the health and safety of the public arising from the activities carried out. The main activities of the Group that impact the community and local area are:

- **production of electrical and thermal energy.** Iren actively strives to develop renewable and other similar energy sources. The management of energy production activities are described in internal procedures and conducted in compliance with the law. Emissions are constantly monitored and controlled. Investments are being made constantly to

optimise the energy efficiency of plants. Energy production plants are all equipped with control protocols, both in compliance with environmental legislation (ISO, EMAS), as well as in accordance with the provisions of Control Authorities. Iren also intends to further extend its district heating system to reach around 100 million cubic metres of volume heated by 2023. In relation to the construction of new plants, all construction and management phases are evaluated, with particular attention dedicated to assessing the impacts generated by the presence of construction sites. Audits are carried out on the work of the businesses' personnel for all contracted activities in compliance with the directives adopted in the context of the Integrated System (Environment, Safety, Quality);



- **waste collection and management.** The Group manages waste across stages: collection, selection, transport, treatment and disposal, with the recovery of material and energy production from these resources to reduce the use of non-renewable natural resources. As highlighted in the Business Plan to 2023, the Group is committed to implementing particularly developed separated waste collection and plant systems to increase material recovery;



- **water sector.** The Group constantly monitors network leaks that can cause significant water wastage: network control, extension and maintenance interventions are completed with the aim of minimising inconvenience for residents. The high quality of water supplied is ensured by the continuous analytical controls carried out, also in addition to legal obligations, over the entire route: from the capturing sources to treatment processes, from filtration and disinfection and from storage tanks to storage at various points of the distribution network. In relation to waste water treatment, the



Group strives to maintain the high operational standards of its plants in compliance with authorisations and to constantly inform the local community concerning the functioning of the plants. As confirmed in the Business Plan to 2023, reducing withdrawals for drinking water and increasing the reuse of treated waters for irrigation are priorities for the Group;

- **gas distribution.** The Group is committed to reducing the number of network leaks through the gradual renewal of the network. The proper management of plants and gas networks, the use of appropriate resources and the use of suitable tools, together with continuous monitoring, are the main elements in preventing potential impacts or accidents. These elements are subject to constant analysis and improvement measures to continuously increase their effectiveness, while respecting efficiency. Furthermore, in order to reduce the inconvenience for local communities when sites are opened, residents, economic associations and Municipalities are involved in defining the schedules and times for the construction sites;
- **electricity distribution.** In relation to the management of electricity networks, one of the main objectives is the constant maintenance of plant service levels in compliance with the resolutions in force.



## MANAGEMENT OF CONSTRUCTION SITES

When managing construction sites of scheduled activities with the potential to create inconvenience for the public, the Group works to reduce the impact on the local area to a minimum. It comes to an agreement with stakeholders on the schedules, times and operational means and identifying strategic periods throughout the year (for example, during August), in order to minimise the impact on the public, with particular attention to disadvantaged groups and economic activities. Additionally, all the necessary measures are adopted to guarantee maximum site safety for citizens, especially in cases of work carried out on roadside sites. When planning and building public street lighting systems and traffic lights, stringent specifications are prepared for the choice of materials, which are binding and also review the critical issues that emerged in the previous construction of similar systems. The impacts on the health and safety of the public are also constantly analysed and monitored.

The construction of new plants is an opportunity for growth for the local area in the medium-long term, in addition to being a

necessity for the development of Iren Group. Thus, dialogue between Iren Group and its stakeholders is necessary, based on transparency and correctness of information. Before beginning the authorisation procedure for the construction of new plants or infrastructures, the Group believes it is crucial to conduct information meetings with the local communities, illustrating the usefulness, the impact on the local area and the project in detail. The Conference of Services is an example of cooperation between public administrations, citizens, businesses and local authorities, where dialogue with citizens and institutions is guaranteed. For a project of particular importance, the party appointed to issue the authorisation convenes the Conference of Services (made up of the various interested parties) which must give its opinion concerning the feasibility of the project, indicating the necessary conditions to obtain the agreements, opinions, concessions, authorisations, licences, permissions and the approval required by the law. For the operation of certain types of production installations, which may generate significant environmental impacts, an IEA is necessary, an Integrated Environmental Authorisation, which verifies that the operation to be authorised has limited environmental impacts, in compliance with the conditions set by the European Union. There were no transfers, not even temporary ones, of people following on from the construction of new plants.

In 2018, only one accident caused by weather events and the coastal storm on 29 October 2018 was recorded: in the Municipality of Genoa, plants were damaged, which led to poor service delivery for the community in the management of the water system. Furthermore, 11 suits were lost to the local community or citizens, for the total monetary amount of 24,550 Euro.



## EXTERNAL COMMUNICATION

In 2018, Iren strengthened its internal and external communication through a growing and constant production of content distributed on various media: the intranet, websites, the main social networks, printed and online media.

- **In the Piedmont area,** constant dialogue continued with institutions and other local stakeholders. In regard to district heating in Turin, in 2018 the network development programme for areas as-yet not served continued, via the construction of a new heat storage systems in the San Salvario area, and a new heat exchange substation in the

Lucento area. In terms of waste management, the extension of the door-to-door collection service continued via the implementation of the new home service in part of the Santa Rita neighbourhood and in the Vanchiglietta/Borgo Rossini and Filadelfia areas. Innovative solutions have been developed for LED public street lighting (for example, nocturnal and Christmas lighting of the Mole Antonelliana and numerous historic monuments and buildings throughout the city). New projects have been developed in Turin and Vercelli in the energy efficiency field and for the development of innovative network systems, in the e-mobility and smart cities fields.

- **In the Emilia Romagna area**, discussions with local stakeholders continued, in particular, with a view to strengthening relationships with Local Administrations. In the environmental sector, targeted communication plans have been initiated to facilitate the launch of new services (door-to-door, exact pricing system, collection points with reward system, etc.) and to explain the reasoning, as well as initiatives to raise awareness around correct waste collection and separation and campaigns to fight waste dumping. So as to effectively involve citizens, especially when new services are being implemented, channels have been opened to intercept the community in a widespread manner via direct mailings, public meetings and an information service, also at their homes, implemented through the use of suitably trained personnel. Traditional communication tools (brochures, collection eco-calendar, waste separation brochure, multilingual leaflets, fliers and posters) were accompanied by more innovative ones, such as social networks, videos and multimedia tools. Furthermore, channels for dialogue and specific training sessions on the subject of proper waste management have been implemented for large customers and special users (EFSA, Prison Guard School, ALMA).
- **In the Liguria area**, dialogue with institutional stakeholders continued, especially on issues related to the construction of new treatment plants in the Genoa ATO and investments for the renewal of distribution networks. The acquisition of ACAM La Spezia has been consolidated and the Group's communication standards have been extended to the new area. Dialogue with the institutions following the emergency that occurred after the collapse of the Morandi Bridge was particularly intense, with the subsequent need to manage all issues relating to service continuity and safety, and the rapid relocation of displaced families.

In regard to the communication of services and products, please see page 83 for more information.

## MANAGEMENT OF EMERGENCIES

The companies of Iren Group have procedures and/or practices that define:

- the organisation and coordination Centres set up to address the emergency situations that could arise within the activities carried out by the Group;

- the management of information and relationships with the Prefectures, Civil Defence, Authorities, Regions, Provinces and Municipalities, including their relative operation rooms.

This is to respond to potential accidents and alarm situations, which could occur after a natural disaster, explosions or fires and to prevent and mitigate the consequent damage to people and/or the environment.



For all monitored headquarters and plants, specific emergency plans are prepared that contemplate the most likely environmental and safety emergency scenarios. Emergency personnel have been identified at each site and plant, who have been trained and are regularly updated. Evaluation drills are carried out every year with the involvement of all personnel present. Company emergency plans were updated, redefining emergency organisation.

Emergency situations connected to possible environmental pollution during the operation of plants, or due to mechanical failure of instruments of control or measurement of chemical physical operating parameters, are managed in accordance with criteria of immediate action on the fault, by specialised personnel, 24/7, via the request and call of on-call technicians. The action aimed at fixing the failures occurs in the minimum time needed to carry out works.

## COMMUNITY AID

The Group shows its closeness to Communities affected by serious natural disasters by giving support to Local Administrations and aid and welfare Institutions, also by way of making employees and vehicles available.

After the collapse of the Morandi Bridge in Genoa on 14 August 2018, Ireti proceeded to isolate the area from the gas distribution perspective and close the outlets of the evacuated buildings indicated by the Municipal Operations Centre. Over the course of the following days, further emergency interceptions were prepared and the supply was turned back on for the buildings that inhabitants were allowed to return to after security checks had been performed. In water distribution, the sectional cuts made to the pipes in the area allowed the pressure on the network to be normalised, despite the damage suffered, avoiding interruptions in supply, limited only to the restricted area. From the very beginning, the Group collaborated to make the utility connections for the new homes supplied to the displaced families available and



took care of all contractual procedures, to get to the consignment of the first apartments, which became available on 19 August. Furthermore, the Group sped up the execution of previously planned road works, also by putting on evening and Sunday shifts, so as to provide the city with an alternative east-west connection.

Given the extreme distress the evacuated families suffered, Iren Mercato immediately suspended the invoicing of gas, electricity and water and also stopped any reminders for bills that had been already issued.

In regard to urban waste management, the Group made 7 vehicles for collection and sweeping services available to the AMIU (Municipality of Genoa management company).

The Group also guaranteed the Regional and Municipal Authorities that it would work with them in the future to overcome the difficulties and find new opportunities for development.

In the Emilia Romagna area, as a sign of its closeness to the area and the people severely affected by the floods of December 2017, Iren Group decided to provide real help to its water service customers who had suffered damage. Thus it automatically postponed water service bills and, via a simplified procedure for the customer, completely wrote-off water consumption that exceeded the historical average of the user.

## RELATIONSHIPS WITH INSTITUTIONS

As also indicated in its Code of Ethics, the Group actively and fully cooperates with the Public Authorities, pursuing the objectives indicated by the relevant Public Institutions, and effectively cooperates with the authorities/institutions responsible for regulating and supervising local public services. These are actions that the Group pursues, combining them with its mission and with the need for managerial and organisational autonomy that is the same for any economic operator.

## COMPLIANCE WITH LAWS AND REGULATIONS

The objective to develop in close contact with the local communities and area is placed at the heart of Iren Group's commitment to constantly connect growth with compliance with laws and regulations, conserving the quality of the environment and promoting the protection of natural resources based on principles of sustainable development.

To this end, the impact of the regulatory variables on the Group's results is constantly evaluated – through the quarterly preparation of regulatory framework by the Regulatory Affairs Department – which looks to identify and implement the most suitable plan of action. The Italian and international regulatory framework is constantly supervised and monitored through the following activities:

- reporting, analysis and summaries concerning the transposition of updates on the subject and the interpretation and application of legislation of interest;
- the coordination and direction of company departments assigned, either directly or indirectly, to comply with information obligations by sector Authorities;
- the coordination and support of the company departments in managing the “antitrust risk” and the “regulatory risk”.

The Group concentrates its activities on the active and proactive monitoring of regulatory developments relevant to all the business sectors in which it operates, participating in consultations, hearings before Chambers (both directly and through the Trade Associations it subscribes to) and promoting direct meetings with the Authorities involved. In particular, the topics observed in the various sectors are summarised below:

- **energy business** - market reform/updating (capacity market, MSD revision and extension, adjustment on imbalances), reform on the allocation of capacity at return points that power generation plants, district heating regulation, reform of the Energy Efficiency Certificates mechanism, hydroelectric concessions for large-scale diversions;
- **market business** - reform of protected market, revision of sale components (electricity and gas), reform of gas balancing, transport and settlement, regasification (combined capacity and storage auctions, tariffs for the actual recognition of costs incurred and revenue coverage factor);
- **environment business** - support for incentives for renewable sources and biomethane, the conferral of environmental powers to the Authority also, monitoring of the legislative framework of reference (Italian Ministerial Decree on Biomethane, Connected Agriculture, tariff mechanisms and waste assimilation criteria), tenders for awarding the service;
- **network business** - tariff regulation to cover operating costs of electricity/gas distributors and regulate the quality of the electricity/gas service, smart meters and their technological evolutions, smart grids, network code, resilience, non-payment, safety obligations, gas tenders of national equalisation and type agreements.



All business units saw the following topics be monitored: unbundling and compliance, Remit implementation, (regulation on the integrity and transparency of wholesale energy markets), the

implementation of the Directive and regulation governing market abuse and the procedures of the Antitrust Authority (AGCM).

Furthermore, the Legal Affairs department studies provisions related to the sectors in which the Group operates, provides support and legal advice to all the structures of the Parent Group and Business Units and participates in working groups on the topics that involve the Parent Group or Business Units.

## RELATIONSHIPS WITH TERRITORIAL AUTHORITIES

In 2018, our constant discussion with Local Authorities and Territorial Authorities focused on two topics in particular:

- activities to divide the water networks into districts and implementation of the Genoa Market Operator's Plan, upgrade of some water networks, construction of the mountain aqueduct pipelines that connect the large Genoa reservoirs with all the Municipalities of Valle Scrivia and interventions on the aqueduct network of Paradise Gulf and the Gulf of Tigullio Orientale aimed at overcoming the water emergencies that have occurred in recent years;
- updating of treatment plants in the metropolitan area of Genoa (Genoa – Central Area, Rapallo, Recco, Sestri Levante, Tigullio Orientale and Arenzano) so that they fully comply with Directive 91/271 EEC on waste water treatment and the planning of the Ronco Scrivia and Torriglia plants;
- restoration measures and the updating of the plants and sewage and water networks severely damaged by the floods in 2014 and 2016 in the Genoa area;
- achieving the right balance between tariff increases and the need for local investment, in compliance with the requirements laid down by law of the second regulatory period 2016/2019, in relation to the tariff of the integrated water service;
- activities of the 69 public water dispensers that supply thousands of citizens with water from dispensers in the provinces of Parma, Piacenza and Reggio Emilia every year - zero kilometre water that allows for a lower consumption of plastic bottles and, consequently, less waste production;

- institutional visits to the reuse plant for irrigation purposes using water from the Manciple treatment plant in Reggio Emilia, which represents an excellence within Italy in the sector and makes it possible to recover 4-5 million cubic metres of water resources during the irrigation season;
- works envisaged under the 2018 – 2019 Investment Plan of the Piedmont ATO 2 for the water service in the Vercelli area: updating and streamlining of the Vercelli water system, with the construction of the new well field and the division into districts of the water network, water interconnections between Vercelli and neighbouring municipalities, a new well in the municipality of Biannuol, the elimination of fibre cement pipelines and a reduction in network leaks, updating and streamlining of sewage systems, and updating and revamping of the Trondheim Vercellese, Cigliano and Saluggia treatment plants.



## TRADE ASSOCIATIONS OF WHICH THE GROUP IS A MEMBER

In order to create opportunities for discussion and collaboration with other companies and to facilitate regulatory and technological compliance, Iren Group is a member of several national and international technical associations in the water, environmental and energy fields, briefly described below.

Association	Description
<b>Utilitalia</b>	a federation that brings together public service Companies that operate in the water, environment, electricity and gas sectors, acting as their representative at European and national Institutions. It was created from the merger between Federutility (water and energy services) and Federambiente (environmental services). It offers support and refresher and training courses, as well as consultancy on contractual, legislative, operational, tax and legal aspects.
<b>Confservizi (at a national and regional level)</b>	a trade union that represents, promotes and protects companies and bodies that manage public utility services such as water, gas, electricity, environmental health and local transport.
<b>Confindustria (regional branches of Genoa, Parma, Piacenza, Reggio Emilia, La Spezia, Turin, Vercelli Valesia)</b>	the leading organisation representing manufacturing and service companies within Italy that is tasked with contributing to the economic growth and social advancement of the country, alongside political institutions and economic, social and cultural organisations.
<b>Assonime</b>	an association of Italian Joint-Stock companies. It works to improve industrial, commercial, administrative and tax legislation in Italy and represents the views of the companies within Italian, European and international institutions.



Association	Description
<b>Anfida</b>	a national association of private water works companies that belong to Confindustria which promotes solidarity and collaboration between its member companies, organises studies on topics of interest and acts as their representative with private and public authorities, organisations and administrations.
<b>AIRU</b>	the Italian Urban Heating Association, which represents sector operators with the aim of promoting and disseminating plant engineering innovation and its application.
<b>EHP - EuroHeat and Power</b>	an international association that represents the district heating and cooling sector and co-generation sector in Europe.
<b>Elettricità Futura</b>	the main Italian electrical association, created from the merger between AssoRinnovabili and Assoelettrica. It represents and protects both big and small companies that operate within the electricity sector in Italy and counts over 700 operators with plants all over Italy.
<b>RES4MED</b>	Renewable Energy Solutions for the Mediterranean, a non-profit association founded as a network of utilities, industries, companies and suppliers of technical services, research institutes and academia involved in promoting clean energy solutions to the countries in the Southern and Eastern Mediterranean.

## CONTRIBUTIONS TO POLITICAL PARTIES AND INSTITUTIONS

As established by the Code of Ethics, “Iren does not pay contributions, either directly or indirectly nor in any form, to political parties, movements, committees and organisations or trade unions, or their representatives and candidates, except where owed in accordance with specific legislation”.

The Group collaborates with Institutions, also financially, for specific projects that are attributable to its mission and, in particular, for projects that contribute to the economic, social and environmental sustainability of the areas of reference. These collaborations are always implemented on the basis of clear documentation for the use of resources.

## MEDIA RELATIONS

The Group manages national and regional media relations activities, concerning corporate, economic-financial, institutional and service aspects, as well as other topics connected to sustainability. In 2018, it continued to play an important role for the local and national press as a major Italian player in the management of environmental, energy and water services and in innovation, due to the dimensional and business characteristics of the Group.

Over the year, there were over 11,000 publications across various communication methods, of which around 7,500 in print and on TV and over 3,600 on major websites. The approximately 8,000 publications on minor websites can be added to these figures, which are proof of the Group’s commitment to service communication and growing media interest. These are significant figures which correspond, in print alone, to over 110 million copies sold and a readership of over 830 million potential leaders (Source and estimate: Ecostampa).

The presence is the same across all areas; the topics of specific national interest are events connected with the financial calendar, negotiations for the acquisition of other companies, ACAM in particular, and the presentation of the Business Plan to 2023. At a local level, the media has favoured topics concerned with environmental initiatives, customer relations, energy saving, water

quality, water saving and the construction/presence of plants in the area.

The Mediamonitor monitoring data was particularly significant in 2018, which saw Iren’s Chief Executive Officer and Chairman in 3rd and 6th place in the ranking of services sector managers most cited by the media.

Media relations help ensure a constant, timely and transparent flow of communication for all stakeholders and involves systematic relations with local and national journalists that are managed according to the principles of availability and transparency, with the awareness of the affinity of the Group to the local area and to the needs of the communities.

The Group’s press office monitors the media and social networks to guarantee that management is constantly aware of public opinion and the views of the financial community and the local areas of reference for the Group.

## CORRUPTION PREVENTION

In carrying out its activities, Iren Group companies frequently interface with the local authorities and third parties.

Relationships with Local Authorities and with third parties must be developed in compliance with the principles established by the Code of Ethics and Model 231 (for more information, see page 41), which express guidelines and regulations of conduct aimed at preventing, where possible, the commission of the relevant crimes pursuant to the same Decree. Company processes are also regulated by specific procedures defining roles, responsibilities and methods of control, establishing the traceability of processes and the clarity of authorisations to ensure transparency and honesty in the company’s activities.

The parent group’s Model 231 contains the mapping of processes and self-evaluation of risks, through which the processes and the sensitive company areas with a potential risk of commission of the crimes indicated in Italian Legislative Decree 231/2001. In particular, sensitive activities at risk of corruption were identified, for which suitable internal rules were provided to supplement the Code of Ethics (general control principles and specific conduct and control protocols), such as, but not limited to:

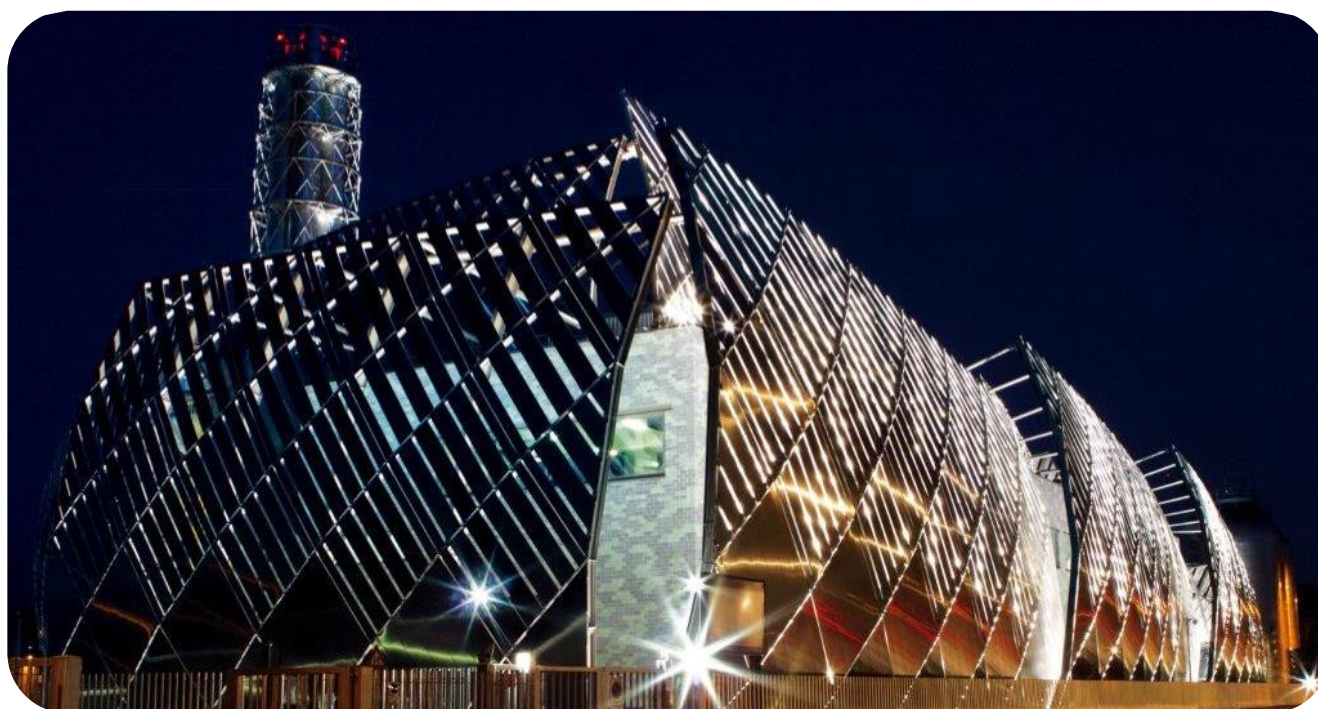
- the selection and formation of contractual relations with the suppliers of goods, services or works;
- consulting selection and management (public and private parties);
- personnel selection, hiring and management;
- management of relationships with public parties to attain or renew authorisations, licences and concessions for carrying out corporate activities;
- management of sponsorships, events, gifts and donations;
- management of public grants, payments and contributions (even training).

The risk evaluation and audit activities concerning the issue of corruption are therefore carried out within the context of broader risk mapping and monitoring of internal control systems for activities and processes. Within the context of the audits conducted, and in relation to the processes investigated, the adequacy of the internal control system is evaluated with reference to the most significant risks, including corruption (by way of example, note that in 2018, audits were carried out on the following processes: payment management, sponsorships, gas estimate management, landfill management, acquisitions and client refund management).

The process mapping, risk self-assessment, the preparation of the Model of Organisation, Management and Control, the approval of the document by the Board of Directors, the dissemination of the document and training initiatives pertaining to it, are also training activities on anti-corruption for each of the parties involved in the various aforementioned activities. During the year, 362 employees took part in training initiatives on the crimes listed under Italian Legislative Decree 231, which also provides for policies and procedures for the prevention of corruption, to which should be added the 1,278 employees trained on the Code of Ethics. These training initiatives were given using e-learning modalities via the provision of a training course, designed on the basis of the specific features adopted, which recalls the models applied within the Group and is fostered with “incremental” training modules in line with regulatory developments. In this way, all personnel can be reached quickly, with the possibility of target-based profiling and the attribution of the entire course or individual training modules depending on the previous training level of the individual person. Reports on training are regularly sent to the Supervisory Bodies.

In 2018, no instances of corruption were ascertained within Group Companies.

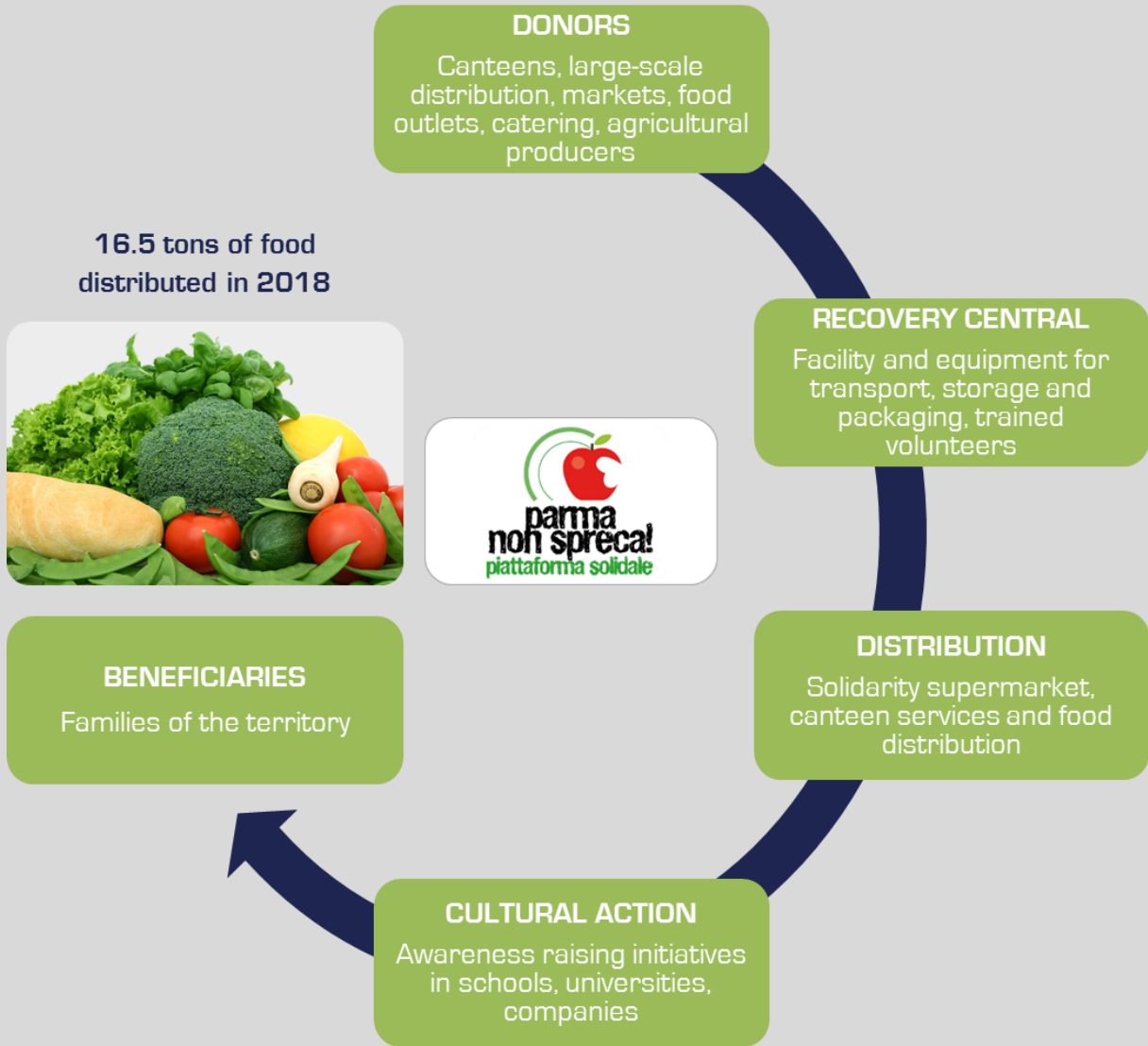
Communication and training on corruption prevention policies and procedures	2018		2017		2016	
	no.	%	no.	%	no.	%
<b>Trained employees</b>	<b>362</b>	<b>5.2</b>	<b>3,186</b>	<b>50.9</b>	<b>307</b>	<b>4.9</b>
of which Senior managers	4	4.4	94	100.0	16	16.8
of which Junior managers	38	13.0	256	97.7	34	13.8
of which White collar workers	305	9.3	2,817	97.3	256	8.9
of which Blue collar workers	15	0.5	19	0.6	1	0.0



## IREN ALONGSIDE “PARMA NON SPRECA”

“Parma non spreca” (Parma doesn’t waste) is a solidarity platform that contributes to food waste prevention and to supporting families in need by collecting, storing and distributing food provided by local donors.

### THE VIRTUOUS CIRCLE



The Iren Local Committee in Parma contributes to “Parma non spreca” by providing refrigerated vehicles for food collection, equipment for packaging it and an agreement for the collection of unconsumed meals at the Iren cafeteria.





# Shareholders and financial backers



## IMPORTANT TOPICS



Value and economic development for local areas



Competitiveness



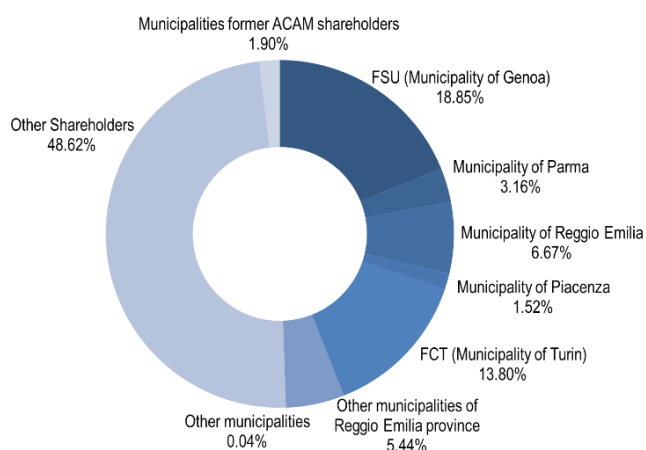
# RELATIONS WITH SHAREHOLDERS AND FINANCIAL BACKERS

Iren Group aims to create value for its shareholders, through targeted sustainable growth strategies and adequate management policies. In addition, the Group is committed to guaranteeing transparent, complete and timely communications by means of various methods to analysts, investors and financial backers.

## SHAREHOLDERS

At 31/12/2018, the most significant Group shareholders, that hold a stake in the company, directly or indirectly, are represented in the graph below.

SHAREHOLDING STRUCTURE OF IREN S.P.A. (% OF TOTAL SHARE CAPITAL)



During the year, events occurred that impacted Iren's shareholding structure:

- the former shareholders of ACAM (La Spezia and the province) joined Iren's shareholding structure, with a 1.90% stake in the share capital;
- 2.5% of Iren's share capital was sold by the Municipality of Turin and 0.49% by the Municipality of Reggio Emilia;
- the Municipality of Genoa acquired a 2.5% stake in the share capital.

Iren investors include around 50 companies and investment funds characterised as socially responsible that pursue sustainable investment strategies, for an amount exceeding 13% of the share capital.

## RELATIONS WITH FINANCIAL ANALYSTS AND INVESTORS

Iren Group has always carried out an intense activity aimed at reinforcing the relationship of trust between the company and the shareholders and at increasing the interest and knowledge of Italian and foreign analysts and investors.

The market's strong interest in the Group is confirmed by the intensification of relations and opportunities for contact with the analysts themselves, also following on from the particularly positive performance of the Group supported by the efficiency raising project conducted in the last few years and by the presentation of the Business Plan to 2023. A positive effect is added to this, created by the optimisation of Iren's financial profile, through greater recourse to the bond market than to the banking channel, confirmed by the issue of the Group's second Green Bond for 500 million Euro in 2018. This instrument contributes to reinforcing the strategic vision, which has always looked to sustainability, circular economy and energy saving.

In 2018, 8 brokers covering the bond were confirmed with periodic reports: Banca Akros, Banca IMI, Equita, Fidentiis, Intermonte, KeplerCheuvreux, Main First and Mediobanca.

Relationships with investors have continued as in previous years. The increased interest shown by investors towards the Group has required greater communication. As with previous years, the roadshow, organised from time to time by different banks, remained the main tool for introducing Iren to Italian and foreign institutional investors, both in terms of equity and credit. In 2018, around 20 roadshows were held in the world's main financial markets (London, New York, Paris, Geneva, Boston, Brussels, Luxembourg, Sydney and Melbourne). The roadshows in Australia were a significant new development, during which the top management met investors focused on regulated businesses in particular. During the year, around 150 investment funds were met, for a total of 165 fund managers. Of particular significance, the direct day-to-day contact with the managers of institutional funds and financial analysts that cover the bond.

In addition to the roadshows, the Group is constantly communicating with the market using different channels, including quarterly conference calls organised for the presentation of the results for the period. Furthermore, on 27 September 2018 an investor day was organised in order to present the Business Plan to 2023 to the financial community. The issue of the second Green Bond on 12 September 2018 represented an additional opportunity for dialogue with the financial community.

Institutional investors give increasing attention to environmental, sustainability and governance topics. Corporate governance that is able to make the Group efficient, dynamic and stable is a discriminant factor in the investment choices of the main players in financial markets. Any economic or financial performance, in fact, must be assessed based on its repeatability or potential for improvement in the following years and this can only happen thanks to rules of corporate governance in line with best practices. From this perspective, it is important to emphasise that market appreciation for the Group's governance is also reflected in the performance of the bond, which has seen its value increase by around 195% in the last four years.

The Company's focus on the growing number of investors that are particularly attentive to considering non-financial factors in their long-term investment choices, is demonstrated by the creation of specific committees, such as the Control, Risk and Sustainability Committee and the Sustainable Financing Committee for

evaluating financing tools to support investments for sustainable development.

## PERFORMANCE OF THE IREN BOND IN 2018

In 2018 the FTSE Italia All-share (the main Italian Stock Exchange index), recorded a drop of 16.71%, due mainly to the worsening of the macro-economic framework. In this context, even anti-cyclical companies, such as multi-utility companies, felt the potential regulatory risks with specific reference to concession activities and water cycle management. These uncertainties mainly affected the companies involved in these activities, including Iren, which decreased by 16.16% during the period. As at 31 December 2018, the price of the Iren bond stood at 2.096 Euro per share, with average trading volumes in the year of approximately 2.06 million units per day. The average price was 2.26 Euro per share, which reached the highest level since Iren was established (2.74 Euro per

share) on 23 January and its minimum level (1.88 Euro per share) on 6 December. The bond is listed on the Italian Stock Exchange in Milan and is included in the following financial indexes:

- FTSE All Share, the index that includes all the shares listed on the electronic market of the Italian Stock Exchange, with the exception of micro-capitalised companies;
- FTSE Mid Cap, part of the FTSE All Share that includes the shares of medium-capitalised companies;
- FTSE Italia Servizi Pubblici, the sector index that includes the shares of companies that operate within public services.

The Group is also present on the FTSE Environmental Opportunities index group (see page 48 Ethical Indexes).

There were no instances of fines or penalties for failure to comply with the obligatory regulations and laws for shareholders.

## VOLUMES AND PRICE TREND OF THE IREN BOND



## FINANCIAL BACKERS

The Group has relations with leading Italian and international credit Institutions and has access to the capital market in order to research the most suitable forms of financing for its needs and the best market conditions. Iren has also implemented a management model focused on the resources and financial risk management with the objective of financial optimisation for all of the companies of the Group.

The sustainability of the financial profile has always been one of the key strategic elements for the Group. On 28 November 2018, the Fitch agency confirmed a BBB rating, with a stable outlook, for Iren

and its senior unsecured emissions. The decision was mainly based on the updated Business Plan to 2023 which, as with previous years, confirms the prevalence of regulated and quasi-regulated activities making up approximately 70% of the gross operating profit and on the positive track record of the results achieved in 2015-2018. In coming to this decision, Fitch positively assessed the historic financial discipline of management directed towards achieving set targets.

In support of its liquidity profile and rating level, the Group has medium-to-long term credit lines available, yet unused, for 155 million Euro, which is added to current cash and cash equivalents.



In particular, the new loans were granted to support investment plans and, confirming the trust held by the financial system in relation to the Group's development projects, allow for the suitable balance between financial exposure in the short and long term to be maintained. In particular, the streamlining and consolidation activity of loans with the European Investment Bank (EIB) continued to support the Group's investment programme, also via liability management operations that made it possible to make room to finalise new lines of financing to support the investments set out in the Business Plan, prioritising the initiatives aimed at mitigating climate change (Climate Action), in line with the objectives set by the EIB. These loans represent a source of funding that strengthens

the Group's financial profile and consolidates its collaboration with the EIB, emphasising the attention it places on environmental sustainability and social and economic topics.

Regarding the transactions on the capital market within the framework of the 2 billion Euro Euro Medium Term Notes (EMTN) Programme subject to a supplement on 10 August 2018, the placing of a bond issue, of the Green Bond type, was completed with full success on 12 September 2018, for a benchmark amount of 500 million Euro.

There were no instances of fines or penalties for failure to comply with the obligatory regulations and laws for financial backers.

#### IREN BONDS IN CIRCULATION AT 31/12/2018

Bond	ISIN	Bond amount (€/000)	Amount in circulation (€/000)	Ann. coupon (%)	Bond duration (Years)	Expiry	Price Emission (%)	Rating
Green Bond 2025	XS1881533563	500,000	500,000	1.95%	7	19/09/2025	99.129	BBB
Green Bond 2027	XS1704789590	500,000	500,000	1.50%	10	24/10/2027	98.356	BBB
Eurobond 2024	XS1511781467	500,000	500,000	0.88%	8	04/11/2024	98.974	BBB
Eurobond 2022	XS1314238459	500,000	359,634	2.75%	7	02/11/2022	99.398	BBB
Eurobond 2021	XS1086104681	300,000	181,836	3.00%	7	14/07/2021	99.225	BBB
Private Placement	XS0979548954	260,000	167,870	4.37%	7	14/10/2020	100.783	n.a.
Private Placement	XS1030889411	100,000	89,100	3.00%	5	11/02/2019	98.728	n.a.
<b>TOTAL</b>		<b>2,660,000</b>	<b>2,298,440</b>					

## GREEN BOND

On 12 September 2018, Iren concluded the issue of its second Green Bond to great success (Fitch BBB rating) with a duration of **7 years for the total amount of 500 million Euro**. This transaction strengthens Iren's presence in the green segment, the first local utility to have issued two Green Bonds for a total of 1 billion Euro, (the first for 500 million Euro in October 2017) which represent about 40% of the Group's bond portfolio. The transaction recorded an extremely positive response from investors with **subscriptions about 4.5 times higher than the offer** and with a high quality and wide geographical diversification of the Socially Responsible Investors (SRI), allowing the Group to further diversify its investor base. The success of the transaction testifies to investors' strong appreciation for the credit and the Sustainable Financing framework of Iren: green investors have been estimated at about 51% of the amount allocated, a sharp increase compared to the previous issue of 2017 in which they were estimated at about 25%. The Green Bond, issued in 2018, was allocated to the **refinancing of 16 projects** within five categories: **energy efficiency, renewable sources, efficiency raising in waste management and recycling and waste water treatment and e-mobility**.

The Green Bonds, issued in September 2018, which have a minimum denomination of 100,000 Euro and expire on 19 September 2025, pay a gross annual coupon of 1.95% and were placed at an issue price of 99.129%. The effective rate of return at maturity is **2.085%, corresponding to a yield of 150 basis points**

**above the 7-year mid-swap rate**. The bonds were listed on the regulated market of the Irish Stock Exchange and on the ExtraMOT market of the Italian Stock Exchange in the Green Bonds segment.

This new issue has confirmed the strategy already undertaken, which makes tangible the attention to sustainability within the Group, taken with an increasingly structured and widespread approach, also through the establishment of specific committees and the implementation of procedures dedicated to "green" financial instruments in order to ensure the necessary transparency for investors. In 2017, the Green Bond Committee was created with the following functions:

- identify investments and activities that produce positive and measurable environmental impacts that are in line with the Group's sustainability policies;
- verify the progress of the funded projects, providing evidence of the allocation of funds raised through the green bond issue and thus guaranteeing their traceability;
- verify the existence of eligibility criteria for the projects financed with adequate evidence within the specific section in the Group's annual non-financial Report;
- ensure the correct management of the process throughout the duration of the funding.

In 2018, the Committee was renamed the Sustainable Financing Committee, with the aim of extending its tasks to all financing instruments supporting investments for sustainable development.

## USE OF INCOME FROM GREEN BONDS AS AT 31/12/2018

Project categories	Green Bond 2025 (GB2)		Green Bond 2027 (GB1)	
	Investments at 31/12/2018 (Euro)	Financed projects (no.)	Investments at 31/12/2017 (Euro)	Financed projects (no.)
Energy efficiency	245,236,139	4	232,587,446	6
Renewable sources	131,214,035	5	161,002,995	7
Efficiency in waste management and recycling	7,265,347	1	42,123,504	1
Waste water treatment	100,438,533	1	56,066,055	4
E-mobility	5,290,946	1	-	-
<b>TOTAL ALLOCATED</b>	<b>489,445,000</b>		<b>491,780,000</b>	
Issue discount	4,355,000		8,220,000	
Residual to be financed by 31/12/2019	6,200,000			
<b>TOTAL ISSUE</b>	<b>500,000,000</b>		<b>500,000,000</b>	

At the end of 2018, 98.7% of funds were allocated to 12 of the 16 identified projects. The list of projects refinanced by the Green Bond was defined by Iren and its compliance with exact environmental criteria was ensured by an external body. Starting from the date the Green Bond was issued and until the complete allocation of the net amount of 495,645,000 Euro (excluding 4,355,000 Euro of discount), within the maximum period of 18 months, the use of liquid funds allocated to the financing of the selected projects is monitored. An amount of 75.3% (373,120,186 Euro) was used for refinancing and/or financing investments covered by previous bank

lines and bonds, while the remaining 24.7% (122,524,814 Euro) will be allocated by 31 December 2019 and corresponds to the liquidity balance as at 31 December 2018, with an allocation constraint to the refunding/funding of the Eligible Projects.

Investments concerning the Green Bond issued in 2017 were confirmed on 31 December 2018.

More information on the Green Bonds and funded projects is available on the [gruppouren.it](http://gruppouren.it) website, in the Financial profile section.





## FOCUS

The projects financed with the Green Bonds issued by Iren Group produce positive environmental impacts, as proven by the main sustainability indicators for the various project categories.

Project category and indicators	unit of measure	Green Bond 2027 (GB1)		Green Bond 2025 (GB2)	
		2018	2017	2018	2017
<b>ENERGY EFFICIENCY</b>					
Electricity produced	MWh	-	-	3,887,199.0	3,884,511.0
Electricity produced from renewables	MWh	75.0	45.0	-	-
Primary energy saved	MWh	32,169.0	27,604.0	2,168,327.0	2,253,635.0
CO <sub>2</sub> emissions avoided by non-fossil sources	t	5,277.8	5,439.4	631,200.0	719,305.0
Thermal energy produced	MWh	225,650.0	218,800.0	1,551,804.0	1,638,833.0
Electricity input to the grid	MWh	-	-	4,002,000.0	4,420,350.0
Network leaks (electricity)	MWh	-	-	157,330.0	172,820.0
<b>RENEWABLE SOURCES</b>					
Primary energy saved	MWh	3,254,066.0	3,663,699.0	-	-
Electricity produced from renewables	MWh	41,468.5	35,610.5	862,969.4	725,724.8
Thermal energy distributed	MWh	233,983.0	241,408.0	-	-
CO <sub>2</sub> emissions avoided by non-fossil sources	t	975,307.3	1,145,767.9	412,711.0	436,367.0
<b>EFFICIENCY IN WASTE MANAGEMENT AND RECYCLING</b>					
Refuse Derived Fuel (RDF)	t	-	-	2,585.0	7,886.0
Separated waste collected	t	788,313.3	711,910.5	-	-
Non-separated waste treated	t	445,411.1	464,836.6	-	-
Door-to-door collection services	No	1,473,268.0	1,391,087.0	-	-
<b>WATER TREATMENT</b>					
Equivalent residents served (potential)	No	290,650.0	290,650.0	-	-
Water volumes for reuse / Total volumes of treated water	%	30%	30%	-	-
Waste water treatment plants	No	-	-	1,278.0	1,122.0
Sewage system	km	-	-	10,718.0	9,924.0
<b>E-MOBILITY</b>					
CO <sub>2</sub> emissions avoided by non-fossil sources	t	-	-	52.4	-

# Future generations



## IMPORTANT TOPICS



Environmental education



Innovation and smart cities



## SUSTAINABILITY EDUCATION

Sustainability education has long been a commitment for Iren Group, which considers it to be the most effect and strategic tool for asserting and spreading a culture of sustainability and innovation.

In 2018, a process to renew traditional educational activities was launched, based on the catalogue of free training offered (guided tours, educational workshops, class lessons and educational games), through an inclusive, participatory and creative approach to communicate the range of services and structure relationships with the local area on sustainability topics. This is an approach to education made up of special initiatives, projects, interventions, meetings, games and focus – calibrated for precise geographical areas and targets – which aimed to involve the entire Group to enhance its knowledge and professionalism and transform plants into classrooms and places that can be enjoyed by all.

*For Iren, sustainability education is constant dialogue and the building of networks with many players*

The courses for teachers, sign of the search for different ways of teaching sustainability (Environmental Theatre and the Remida Centre) welcomed the addition of a course on circular economy, designed together with the Emilia Romagna ARPAE and the Italian Centre for Environmental Research and Education of the University of Parma and which saw the participation of teachers from all over Italy. The course was divided into three days, addressing the main theoretical points and analysing the practical activities/experiences in the school environment.

Training for new Italian citizens, migrants and asylum seekers was also reinforced in order to help them integrate better. Edu.Iren participated in many projects, starting with **EUKI - Build bridges for climate Protection**, coordinated by Landratsamt Fürstenfeldbruck and the E35 Foundation (with funding from the German Government through the European Climate Initiative programme). The environment was also discussed in the Adult Education Centres (AEC) in Turin, Reggio Emilia and Piacenza, in Italian-language schools for foreigners and in specific projects, such as those with **Almaterra** and **Liberi Tutti** in Turin. It was also discussed with parents, for example in the **“Sustainable Families”** project – in collaboration with the Centre for Families of the Ponente District (Piacenza) Coop Alleanza 3.0 and various local Associations – and in the many offers proposed by **CEAS “Terre Reggiane” Tresinaro Secchia**.

Sustainability was discussed in the classroom, in a civic hall, but more than anything else, at Iren plants, which have always been open to visits and which offered greater opportunities to be experienced and explored in 2018. The La Loggia Mini Hydro Plant in Turin hosted one of the Italian stages of **World Fish Migration Day 2018**, offering plant visits, conferences, explorations of the river and educational games, in collaboration with CentroScienza, the Regional Natural Science Museum and the Collina Po Park.

The **Turin waste-to-energy plant** continues to be one of the few facilities to offer an innovative educational course, designed with Xkè, and this is an opportunity that was appreciated by almost 5,500 visitors in 2018 and which will be extended to nurseries in 2019 too.

From the big plant to the small plant, such as the Collection Point on via Arbe in Turin, which hosted the **“Una notte differenziata”** event, providing musical entertainment and scientific laboratories in a place dedicated to waste, together with Ecomori, AMIAT, CentroScienza Onlus and the Triciclo Social Cooperative.

The **Water Treatment Plant (WTP) of Mancasale in Reggio Emilia** is worth discussing in more detail. This is the main plant serving the Reggio Emilia area and the first example in Emilia Romagna of the reuse of treated water in quality crops, with cutting-edge technologies, introduced in 2012 thanks to the European programmes Life+ Ambiente and ReQpro. There is much to tell about such an important service that Italian citizens are so unaware of, which is why the Group has decided to **transform a treatment plant into an eco-industrial park**, open to the public with an educational mission, where work and cultural activities can exist side-by-side.

The park has a 10-stop pedestrian path with informative signs and highly-accessible maps, in order to facilitate the guided tours provided by the employees who run the plant. Three pieces of mural art embellish the path, **“Energy Metamorphosis”**, created by the artists Maik and Neko, two of the participants in the Street Art Round Table of the Municipality of Reggio Emilia (Educational Workshop), selected via a contest and online voting by Iren Group employees. The **WTP** is also the site of the collaboration of the social innovation project, **Museum Reloaded**, from the Regional Centre for Information on Architectural Barriers, the Parents for Social Inclusion association - for consultancy concerning accessibility - and the AMGA Foundation.

This is a format that will also be rolled out to other Iren plants in the years to come: plants to be seen, experienced and explored. The **“Drop Space”** is coming together in the new Luzzara water plant (Reggio Emilia), a multi-functional educational space that also involves the Municipal Authorities, the “Un Paese” Foundation and the Bassa Reggiana Services Agency.

Significant innovations also occurred in the **Iren Group Combined School and Work** project. Having confirmed the protocols with the Regional School Authorities (RSAs) of Emilia Romagna, Liguria and Piedmont in order to regulate the relationship with the schools in the region, the Iren Combined Work and School project gave life to important experiences. The project conducted with the Italo Calvino Institute in Genoa received the first national award within the **“Alternating Stories”** initiative supported by Unioncamere and the Chambers of Commerce. It saw 596 schools take part with the aim of enhancing and giving visibility to the combined school and work projects that had been designed, developed and put in place by the students and tutors in Italian secondary schools. The project came about as the development of the **“Are you Eco-logical? Games and solutions for sustainability”** initiative, developed in 2016 by Iren Group and presented at the Science Festival in Genoa. The initiative consists of a course made up of games, comic strips and educational panels, aimed at showing how sustainable the management of water, energy and waste can be and what



citizens can do, by following simple rules for responsible consumption. The project included the creation of two multimedia apps on sustainability, also in English and available online and the subject of a dedicated installation in the **Città dei Bambini e dei Ragazzi educational play area in Genoa**. In regards “Alternating Stories”, the projects created by Iren with the Agnelli International Institute in Turin (“A Solar Future”) and the Avogadro Institute in Turin (“Illuminate Turin”) also received awards. The Avogadro project came out of the classroom and offered the city a new installation for the Luci d’Artista 2018 event that was visible on the façade of the school.

There is also the new “**Fontanone**” outside of the classrooms, a mobile fountain in the shape of a pitcher designed by the students of the Chierici Artistic Secondary School in Reggio Emilia, together with Iren and Vimoplast Materie Plastiche Riunite, to distribute mains water at public events and concerts, which was a hit with users. Iren also took part in the European A.P.P. VER “Learn To Produce Green” project, with the aim of promoting the development of a green and circular economy, reducing the gap between the training offered and the local socio-economic system. From Iren’s Combined School and Work project also came “**Separated Waste Collection? Child’s Play**”: two animated commercials aimed at raising the awareness of the city concerning separated waste collection, which was designed and created by the primary school children who took part in the afternoon workshops of the Municipality of Reggio Emilia, who were trained on the new technologies by the teenagers from the Chierici Artistic Secondary School. Environmental awareness was also taken up by the Ferrari di Cella Primary School (Reggio Emilia), which rallied in its neighbourhood and inside the school with its own vegetable garden. “**The Ecological House**” is another educational opportunity that came from the collaboration with Giocampus in Parma. It consists of the perfect house where you can learn to be sustainable from the age of a child, thanks to specific experiences and moments of analysis, which livened up the summer edition of the Giocampus Project that engages thousands of young people every year and that, today, is available for new discoveries. The most significant educational experiences of 2018 were the subject of the “**Learn by Playing**” conference, which was part of the Science Festival in Genoa, while the **Taimaneri** project (Iren+Amiat written backwards), created by the Sacra Famiglia School, was selected as one of the best practices presented at the 2018 Education Festival in Turin. Two projects resulted from our collaborations with the historic newspapers *Il Resto del Carlino* and *La Stampa*: The “**Journalism Championship**”, created with the *del Carlino* editorial staff in Reggio Emilia, and “**The 5 Rs and the 5 Ws**” with the Vercelli editorial staff of *La Stampa*, promoted by ASM Vercelli. With “**My first separated waste collection**”, a series of new educational tools was launched. In this instance, the traditional book has been replaced by an album of figurines for children. Sustainability education is also solidarity. One of the many initiatives includes one dedicated to the children of the Genoa families affected by the collapse of the Morandi Bridge, held as part of the “**Noiatri pe voiatri**” solidarity event.

*Edu.Iren: 78,900 students and over 560 schools  
in 60 sustainability education projects*

In 2018, the Edu.Iren project has reached **78,893** people with its offers, supported **60** educational projects and involved **567** schools in the Emilia Romagna, Liguria and Piedmont areas.

## RESEARCH AND INNOVATION IN IREN GROUP

### SUSTAINABLE INNOVATION

The technological innovation of Iren Group is at the heart of strategic choices and of the definition of the products and services offered by the Group. The Business Plan to 2023 confirms the central nature of innovation in the Group’s vision, which will be implemented, over the period of the plan, in all sectors, with the aim of making Iren the benchmark for excellence and innovation in the multi-utilities sector. The main research, development and innovation areas in which the Iren Group is investing include:

- energy efficiency divided into several levels and assets (customer, building, urban agglomerate, energy assets of the Group);
- study of new systems for the recovery of energy losses and an increase in the efficiency of the plants;
- advanced systems for remote management, remote reading, smart metering and multi metering;
- thermal and electrical storage systems;
- processes for maximising energy and waste material recovery, both separated and non-separated;
- Internet of Things (IoT) and home automation;
- data intelligence ICT tools;
- optimised management of the integrated water cycle (division of areas into districts, identification and a reduction in network leaks) and tools to support sensors in the field;
- systems for reducing quantity and the recovery of material and/or energy from purification sludge;
- electric mobility;
- “industry 4.0” solutions to support personnel involved in plant operational and maintenance activities, for predictive maintenance and in-the-field monitoring.

Iren manages innovation processes through an open innovation model. In line with that model, it has launched profitable collaborations with Universities, Research Centres, innovation Hubs and innovative start-ups. Furthermore, it actively participates in working groups and associations on specific research and development topics and promotes events such as conferences, workshops and hackathons. 2018 was characterised both by the continuation of technical activities related to the Group’s various co-financed projects and by the development, in partnership with innovative companies and start-ups, of internal technological projects in line with a plan, based on long-term scenario analyses, aimed at providing the Group the tools needed to seize the opportunities and mitigate the risks deriving from the evolution of the markets in which it operates. In the second half of 2018 “**Iren Up**” was launched, the innovative **Corporate Venture Capital**



**programme** aimed at supporting the Italian start-ups with the highest potential in the cleantech sector: from clean technologies to the circular economy. In this regard, the Group provides a unique package of personalised services that may include trials, technical support, legal advice, market testing and commercial and industrial agreements. The programme includes investments of over 20 million Euro for the first three years, with investment tickets ranging from 100,000 to 2 million Euro, depending on the life phase of the start-up and requirements.

*Iren Up: over 20 million Euro in three years to support Italian companies with high potential*

In relation to the Iren Up programme, in 2018 in the search for start-ups that have developed innovative solutions capable of bringing benefits to the Group's business lines was reinforced, also through

participation in events devoted to putting into contact the demand and the supply of technology. To this end, the second edition of the **Iren Start-up Award** was launched, a competition that saw the participation of over 170 start-ups (see page 146).

**RESEARCH AND INNOVATION PROJECTS**

In 2018, Iren actively took part in 13 research and innovation projects for a total multi-year commitment of around 7.5 million Euro, of which around half was financed by research and innovation tenders managed by institutions such as the European Union, the Italian State and regions (for example, Horizon 2020, Framework Programme 7, MIUR and POR FESR). In 2018, these projects involved a commitment of around 740,000 Euro, of which around 500,000 Euro was funded through tenders. These are projects that actively involve around 98 Group employees and guarantee collaborations with numerous businesses and academic institutions located in over 90 European cities.

Project	Description
<b>Pump-Heat</b> (European Horizon 2020 programme)	It is an example of international collaboration with 14 partners from 8 different European countries and it aims to introduce innovative solutions for increasing the flexibility of major electricity plants in favour of renewable sources. At the Moncalieri Power Plant (Turin), a pilot project will be carried out to test the technologies studied and developed during the project.
<b>Planet</b> (European Horizon 2020 programme)	The project aims at developing technologies and analysing the regulatory constraints for taking synergistic advantage of the distribution networks (electricity, gas and heat). Also, in this case, the Iren Group is involved in the development of a physical pilot project, where storage and energy conversion systems will be tested.
<b>Chester</b> (European Horizon 2020 programme)	The project has the objective of developing and integrating an innovative solution of the Power-to-Heat-to-Power type that will enable the maximisation of the exploitation of non-programmable electricity RESs and thermal RESs already combined with district heating systems.
<b>Esacom</b> (Piedmont Region - innovation hubs tender)	Another topic of major interest is the optimised management of consumption. In this regard the project aims to develop a technological platform able to provide stakeholders with a scalable management tool for energy data and existing objective and subjective measurements in the field, optimised regulation of plant parameters and implementation, to achieve measurable energy savings.
<b>SmartWaterTech</b> (MIUR tender)	The programme covers the optimised, synergistic and innovative management of Group assets and has trialled ICT architectures that enable a system of multi-service metering, for the optimised management of the integrated water cycle and the study of innovative technologies for waste water treatment.
<b>Biometh-ER</b> (Life+ programme)	The trial of innovative plant design solutions lies at the basis of this project to produce and use the biogas produced by purification sludge through a prototypical biogas upgrading system.
<b>Waterspy</b>	The project intends to define a methodology to detect the presence of heterotrophic bacteria (E.coli, pseudomonas aeruginosa and salmonella) in aqueous matrices. This instrument, which is to be developed as a prototype for use in the field on sources of procurement for the water service (artificial lakes) and on the distribution network, includes a pre-concentration phase that allows a biosensor to bind the bacteria on a surface, which will then be analysed with laser technology. The development of an instrument which works in the range indicated could open up many possibilities in pervasive monitoring of water quality.
<b>Store&amp;Go</b> (European Horizon 2020 programme)	Iren Group is also very attentive to the issue of electricity storage. The project will demonstrate 3 innovative Power to Gas (PtG) systems located in Germany, Switzerland and Italy, in order to identify and overcome the technical, economic, social and legal barriers. The project aims to evaluate the possibility of integrating the PtG storage system within cutting-edge energy production and distribution systems. In 2018, the demonstrator in Falkenhagen, close to Berlin, and the demonstrator in Troia, in Puglia, were opened.
<b>Everywh2ere</b> (European Horizon 2020 programme)	In the project, Iren, as a third party, will test a hydrogen skid for electricity production during events/trade fairs (uninterrupted power supply/mobile generator mode).
<b>Fabric</b> (European programme FP7)	Sustainable mobility is another objective of innovation in Iren: its declination provides for the installation of fixed electric charging infrastructures in the various local areas, and the study of induction systems, as developed in the Fabric project. This technology could be the engine for the massive development of the electric mobility in the future.
<b>NeMo</b> (European Horizon 2020 programme)	The project aims to develop an e-roaming platform applied to different electricity mobility systems (recharging infrastructure and motor vehicles). The main objective is the creation of a supra ICT infrastructure able to standardise data from various stakeholders and generate innovative services and applications across various levels.
<b>eVolution2G</b> (EMEUropa Call 2016)	The project is intended to study in depth and test directly in the field the Vehicle to Grid (V2G) concept, that is a system in which electric vehicles have a balancing role on electricity grids.
<b>Ottempo</b> (Piedmont Region tender innovation hubs)	The project, on the other hand, aims to study and test distribution methods via a wireless or fibre-optic telecommunications network, of the time sample, i.e. the exact time, with micro-second precision, with application in real-time monitoring systems of the water service and electricity distribution networks.

In addition to those mentioned above, Iren will be involved in 4 other projects that successfully passed the evaluation stage in 2018 and which will begin in 2019.

## AMGA FOUNDATION

The AMGA Foundation was established in 2003 with the aim of promoting and organising scientific, educational and cultural initiatives aimed at protecting the environment and water resources and the optimal management of network services. In particular, it looks to increase and disseminate knowledge and understanding about the water cycle and its interactions with the environment, within research and training projects orientated at allowing sustainable management of water resources and promoting economic growth and development of the local areas in which it operates. Furthermore,

it is committed to research activities on the organisational models of water services and, more generally, public services, in order to assess the possible management options within the various regional scenarios. The skills acquired are made available by the organisation of training courses and seminars and the publication of technical and educational volumes. The scientific results obtained by the Foundation from the projects and collaborations are a valid reference in the water resources, energy and environmental management sectors, activities which AMGA Foundation dedicated itself to in 2018, coordinating research projects and promoting wide-ranging cultural and educational activities.

### 2018 ACTIVITIES

Below is a summary of the initiatives sponsored by the Foundation in 2018.

Areas	Projects
Research	<p><b>Behavioural economics meets the energy market:</b> this explores the possible causes of energy and gas consumer behaviour, focusing on the tendency not to “switch” from one provider to another, even when the change would bring about objective economic benefits.</p> <p><b>Cost-benefit analysis in the energy sector:</b> review of the cost-benefit analysis methods and the main applications in regulated sectors, with particular reference to the energy sector and the use of no-dig technologies.</p> <p><b>Cost characteristics and economies of scale in the environmental services sector:</b> investigation into the cost characteristics of environmental service management, analysing the existence of economies of scale in the waste collection service.</p> <p><b>The application of WSPs to the water service:</b> implementing the Water Safety Plans (WSPs) in the integrated water service, assessing and managing the risk in the water supply chain for human consumption, via the application of a new method that involves water service companies and institutional Bodies (ARPA, ATO, ASL, etc.) when defining potential risks.</p> <p><b>Development and validation of procedures for assessing the input of biogas in the natural gas distribution network:</b> the analysis of the state of the art and the application of a simplified model of operation for the natural gas network in case studies that are of practical-managerial interest, with the aim of providing stakeholders with case studies that support the preliminary assessment of the capacity of systems-type to intercept lots of biogas.</p> <p><b>Indicators of resilience in water distribution systems against climate and socio-economic changes:</b> the analysis of the state of the art to define a method for quantifying the resilience of water distribution systems and for measuring variations in it regarding the scenarios of climate and socio-economic changes. The analysis is also extended to the assessment of possible incremental impacts on the quality of the water distributed.</p> <p><b>Model for forecasting and managing damage to networks in the event of flooding:</b> the development of a model for forecasting expected damage to network infrastructure in the case of flooding, which can be used by operators and by flood risk management bodies to define strategies for reducing and/or mitigating impacts. The drainage network in Parma is a prototypical case of systemic vulnerability analysis in regard to a method that can be extended to network infrastructures.</p> <p><b>Micro-plastics project:</b> the implementation of the first applicative investigation into the possible presence of micro-plastics in water resources, including the application of a methodological approach on selected case studies that consider the most recent international indications and providing preliminary information that is currently not available in Italy.</p>
Culture and education	<p><b>Are you Eco-logical? Games and solutions for sustainability:</b> the panels and games proposed during the educational course were enriched with new playful and informative content and an English-language version of the course was also created. The content was transformed into a web app by the children from the Italo Calvino Institute in Genoa. A second app containing sustainability puzzles is planned (34 in Italian and 27 in English). The two apps will be housed in the children’s corner of the <i>Città dei Bambini e dei Ragazzi</i> educational play area in Genoa.</p> <p><b>Enhancing the material collected on the history of water:</b> research into the history of water, with insights into the evolution of waste management. On the basis of the material produced, a storyboard was created for a children’s play, in collaboration with the Teatro dell’Ortica, which will tell the story of waste water. The show will be available from spring 2019.</p> <p><b>Parco Acque Depurate (PAD):</b> collaboration with Edu.Iren to enhance and propose scientific and cultural initiatives and formats on purification treatments (see page 142). Specific initiatives will be carried out on both existing and planned plants, in an area with a strong tourist vocation on the eastern coast of Liguria.</p> <p><b>Energy show:</b> the aim is to give children information and suggestions on sustainability topics and new practices and technologies intended to reduce consumption (home automation, smart cities, smart grids, IOT and e-mobility).</p> <p><b>Training course for technicians of the Municipality of Hebron</b> to analyse the topics: the design of water and sewerage networks, the advanced management of water leaks, the energy efficiency-raising of pumping stations, advanced project management, innovation and innovative technologies in water services.</p> <p><b>S’i fosse acqua.... Il ciclo integrato delle acque: l’industria che sarà</b> (If there were water...the integrated water cycle: the industry to come) conference: a series of initiatives, in collaboration with the Utilitatis Foundation, the Eni - Enrico Mattei Foundation and ENEA, to discuss industrial development and new challenges for the water service and waste management and examine the most relevant issues (economic management, big data, citizen science, economies of scale and scope, the role of regulatory authorities, the right to water, sustainable use of resources, long-term planning, research for process innovation and the funding of the water sector).</p>

## Focus

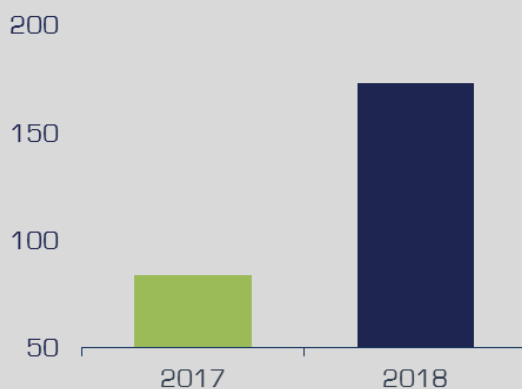


The Iren StartUp AWARD is the competition aimed at young companies in order to select the best innovation projects in the energy, environment, water service and mobility sectors.

Launched in 2017, in collaboration with Intesa San Paolo, 2018 saw the second edition take place.

### START UP PARTICIPANTS

The participating companies more than doubled in 2018 compared to 2017.



### CATEGORIES



Energy



Water



Networks



Waste



Mobility



Value-added services

### THE PRIZES



The **SEED** award for university spin-offs or start-ups in the product validation phase, looking for market validation 15,000 Euro and a personalised acceleration programme in collaboration with Iren and key players in the Cleantech ecosystem



The **GROWTH** award for start-ups or SMEs with innovative solutions already on the market, looking for market growth 15,000 Euro and a personalised programme aimed at structuring a partnership proposal that can be implemented with Iren



Special **ECO-SUSTAINABLE MOBILITY** award  
10,000 Euro

### THE WINNERS



Development of a platform that uses wearable devices and sensors able to promptly report emergency situations concerning the health and safety of workers



Process for treating composite waste that produces EcoAllene, an innovative plastic material that is completely recyclable with a great range of uses in the production of objects and components



Car-pooling platform that connects colleagues for sharing the journey between the workplace and the home, which can be used as an investment on corporate welfare

# COMPLIANCE WITH THE GRI STANDARD AND ITALIAN LEGISLATIVE DECREE 254/2016

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102-7	Scale of the reporting organization	Core	• Consolidated Financial Statements, 13, 18-24, 58, 70 -73, 88, 92, 98-99
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102-27	Increasing the awareness of the highest governance body on economic, environmental and social issues	Comprehensive	26
102-28	Assessment of the performance of the highest governance body	Comprehensive	• 25
102-29	Identification and management of economic, environmental and social impacts	Comprehensive	• 25-26, 29-31, 36-37, 45-48
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102-31	Review, by the highest governance body, of economic, environmental and social topics and their impacts, risks and opportunities	Comprehensive	• 25, 29-30, 36-41
102-32	Role of the highest governance body in Sustainability reporting	Comprehensive	• 7, 36
102-33	Process to communicate critical concerns to the highest governance body	Comprehensive	26, 37-41
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Indicator	Application	Italian Legislative Decree No. 254/16	Page/Notes
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	<i>Efficient and reliable services</i>	•	10, 50, 58-59, 67-69, 70-75, 88-95
	<i>Marketing policies</i>	•	11, 53, 82-83, 85-87
	<i>Management of construction sites</i>	•	11, 128
	<i>Management of emergencies</i>	•	11, 129-130
	<i>Dialogue with Public Authorities</i>	•	9, 54, 130-132
	<i>Fight against corruption</i>	•	11, 41-42, 132-133
	<i>Compliance with laws and regulations</i>		12, 41-42, 79, 88, 130-131, 132-133

Indicator	Application	Italian Legislative Decree No. 254/16	Page/Notes
<b>ECONOMIC PERFORMANCE</b>			
201-1	Direct economic value generated and distributed	Comprehensive	57-60
201-2	Economic and financial implications and other risks and opportunities connected to climate change	Comprehensive	41, 59
201-3	Defined pension plan obligations	Comprehensive	99, Consolidated Financial Statements
201-4	Significant financial assistance received from government	Comprehensive	60
<b>Market Presence</b>			
202-1	Ratio between the standard base salaries by gender compared to the minimum local salary	Comprehensive	100
202-2	Proportion of senior managers hired from the local community	Comprehensive	59, 98
<b>Indirect Economic Impacts</b>			
203-1	Investments in infrastructure and services of interest to the community	Comprehensive	58, 67, 126-127
203-2	Main indirect economic impacts	Comprehensive	59, 143-144
<b>Procurement practices</b>			
204-1	Proportion of spending on local suppliers	Comprehensive	117-119
<b>Fight against corruption</b>			
205-1	Operations assessed for risks related to corruption	Comprehensive	• 132-133
205-2	Communication and training on anti-corruption policies and procedures	Comprehensive	• 42, 133
205-3	Confirmed incidents of corruption and actions taken	Comprehensive	• 133
<b>Anti-competitive behaviour</b>			
206-1	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	Comprehensive	88
<b>ENVIRONMENTAL PERFORMANCE</b>			
<b>Property, plant and equipment</b>			
301-1	Materials used	Comprehensive	• 67, 92
301-2	Recycled materials used	Comprehensive	• Not applicable due to the characteristics of the materials used
301-3	Regenerated products and related packaging materials	Comprehensive	• Not applicable in relation to Group activities
<b>Energy</b>			
302-1	Energy consumption within the organization	Comprehensive	• 62
302-2	Energy consumption outside the organization	Comprehensive	• 62, 70
302-3	Indicators of energy intensity	Comprehensive	• Ratio between direct energy consumption and energy produced (TOE/MWh): 0.134
302-4	Energy saving	Comprehensive	• 49, 68-69, 74-76
302-5	Reduction in energy requirements for products and services	Comprehensive	• 74-76
<b>Water</b>			
303-1	Total water withdrawal by source	Comprehensive	• 63-64, 70
303-2	Sources significantly affected by withdrawal of water	Comprehensive	• 63, 77
303-3	Recycled and reused water	Comprehensive	• 63, 131 Reused water comes to 6,024,068 m <sup>3</sup> , equal to 1.2% of the total
<b>Biodiversity</b>			
304-1	Operational sites located in protected areas and areas of high biodiversity value	Comprehensive	• 77-78
304-2	Significant impacts of activity on biodiversity	Comprehensive	• 77-78
304-3	Habitats protected or restored	Comprehensive	• 77-78
304-4	Species on the IUCN Red List and national conservation lists with habitats in the areas the Group operates	Comprehensive	• 78
<b>Emissions</b>			
305-1	Direct greenhouse gas (GHG) emissions (Scope 1)	Comprehensive	• 64-66, 69
305-2	Direct greenhouse gas (GHG) emissions (Scope 2)	Comprehensive	• 64-65
305-3	Other indirect greenhouse gas (GHG) emissions (Scope 3)	Comprehensive	• 64-65
305-4	Greenhouse gas (GHG) emissions intensity	Comprehensive	• Ratio between Scope 1 and 2 emissions and energy produced (tCO <sub>2</sub> /MWh): 0.36
305-5	Reduction in greenhouse gas (GHG) emissions	Comprehensive	• 67-68, 73-76
305-6	Emissions of ozone-depleting substances (ODS)	Comprehensive	• 66, 73
305-7	NOx, SOx and other significant emissions	Comprehensive	• 66, 68



Indicator	Application	Italian Legislative Decree No. 254/16	Page/Notes
<b>Effluents and Waste</b>			
306-1	Water discharges by quality and destination	Comprehensive	• 64, 71
306-2	Waste produced by type and disposal method	Comprehensive	• 64
306-3	Significant spills	Comprehensive	• 66
306-4	Transport of hazardous waste	Comprehensive	• Not applicable as the Group does not transport, import or export waste shipped internationally
306-5	Water bodies affected by water discharges and/or outflows	Comprehensive	• 71, 78
<b>Compliance with environmental laws and regulations</b>			
307-1	Non-compliance with environmental laws and regulations	Comprehensive	• 79
<b>Supplier environmental assessment</b>			
308-1	New suppliers screened based on environmental criteria	Comprehensive	• 116
308-2	Negative environmental impacts in the supply chain and actions taken	Comprehensive	• 115-116
<b>SOCIAL PERFORMANCE</b>			
<b>Employment</b>			
401-1	New hires and employee turnover	Comprehensive	• 99, 111
401-2	Benefits provided to employees	Comprehensive	• 100
401-3	Parental leave	Comprehensive	• 105
<b>Labour management relations</b>			
402-1	Minimum notice periods regarding operational changes	Comprehensive	• 108
<b>Occupational health and safety</b>			
403-1	Representation of workers in health and safety committees, made up of workers and management	Comprehensive	• 109
403-2	Accidents at work, occupational diseases, absenteeism and work-related deaths	Comprehensive	• 109, 111, 117
403-3	Workers with high incidence or high risk for occupational diseases	Comprehensive	• 108-109
403-4	Formal agreements with health and safety protection trade unions	Comprehensive	• 109
<b>Training and education</b>			
404-1	Average hours of training per capita each year	Comprehensive	• 103
404-2	Skills management and transition assistance programmes	Comprehensive	• 98, 101-103, 106
404-3	Proportion of employees who receive regular performance and career development assessments	Comprehensive	• 100-102
<b>Diversity and equal opportunities</b>			
405-1	Composition of governance bodies and employees per diversity indicator	Comprehensive	• 25, 27, 31, 99, 104-105, 110-111
405-2	Ratio between women's basic salary and remuneration and men's	Comprehensive	• 104, 111 Data on remuneration is not available as it was partly paid in the following financial year
<b>Non-discrimination</b>			
406-1	Total number of incidents of discrimination and corrective actions taken	Comprehensive	• 88, 102, 104
<b>Freedom of Association and Collective Bargaining</b>			
407-1	Operations and suppliers for which the freedom of association and collective bargaining may be at risk	Comprehensive	• 116-117
<b>Child labour</b>			
408-1	Operations and suppliers at significant risk of child labour incidents	Comprehensive	• 114-115
<b>Forced or compulsory labour</b>			
409-1	Operations and suppliers at significant risk of forced or compulsory labour incidents	Comprehensive	• 114-115
<b>Safety practices</b>			
410-1	Security personnel trained in human rights policies	Comprehensive	• Not applicable in relation to Group activities
<b>Rights of indigenous peoples</b>			
411-1	Incidents or violations of the rights of indigenous peoples	Comprehensive	• Not applicable given the location of Group activities
<b>Human rights</b>			
412-1	Operations that have undergone human rights reviews or impact assessments	Comprehensive	• 44
412-2	Employee training on policies or procedures concerning human rights	Comprehensive	• 42
412-3	Significant investment agreements and contracts that include human rights clauses or are subject to human rights screening	Comprehensive	• 114, 116-117
<b>Local Communities</b>			
413-1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	Comprehensive	• 46-48, 127-128
413-2	Operations with significant actual or potential negative impacts on local communities	Comprehensive	• 127-128



Indicator	Application	Italian Legislative Decree No. 254/16	Page/Notes
<b>Supplier social assessment</b>			
414-1	New suppliers tested according to social criteria	Comprehensive	• 115, 119-120
414-2	Negative social impacts in the supply chain and actions taken	Comprehensive	• 115, 120
<b>Public policies</b>			
415-1	Total value of political contributions by country and recipient/beneficiary	Comprehensive	• 132
<b>Customer health and safety</b>			
416-1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Comprehensive	• 83, 127-128
416-2	Non-compliance of products and services with health and safety regulations	Comprehensive	• 83, 129
<b>Marketing and labelling</b>			
417-1	Requirements for product and service information and labelling	Comprehensive	• Not applicable in relation to Group activities
417-2	Non-compliance with regulations and/or voluntary codes regarding information on products and services	Comprehensive	• 88
417-3	Non-compliance concerning marketing communications	Comprehensive	• 88
<b>Customer Privacy</b>			
418-1	Documented complaints regarding breaches of privacy or loss of customer data	Comprehensive	• 88
<b>Socio-economic compliance</b>			
419-1	Non-compliance with social and economic laws and regulations	Comprehensive	• 108, 119, 128, 137, 138
<b>ELECTRIC UTILITIES SUPPLEMENT</b>			
EU-1	Installed capacity	Core	• 18
EU-2	Net energy output	Core	• 18, 73, 75
EU-3	Number of customers	Core	18, 19, 88
EU-4	Length of transmission and distribution networks	Core	18, 19, 90
EU-5	Allocation of emission quotas	Core	• Level of respect: 6.96%
EU-10	Planned capacity	Comprehensive	58
EU-11	Average output of heat production plants	Comprehensive	• Co-generation plants, thermal plants and thermoelectric plants: 67.28% Waste-to-energy plants: 69.6%
EU-12	Transmission and distribution losses as a percentage of total energy	Comprehensive	• 89-90
EU-13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	Comprehensive	• 78
EU-15	Percentage of employees eligible to retire in the next 5 to 10 years	Comprehensive	99
EU-17	Days worked by contractor and subcontractor employees	Comprehensive	117
EU-18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	Comprehensive	• 117
EU-22	Number of people physically or economically displaced and compensation	Comprehensive	• 128
EU-25	Number of injuries and fatalities to the public involving company assets	Comprehensive	• 128
EU-26	Percentage of population not served in the electricity distribution area	Comprehensive	The Group serves the entire population of the areas where it manages the electricity distribution service
EU-27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	Comprehensive	89
EU-28	Power outage frequency	Comprehensive	89
EU-29	Electricity interruption: cumulative downtime (D1)	Comprehensive	89
EU-30	Average plant availability factor	Comprehensive	• Co-generation plants: 49.74% Waste-to-energy plants: 86.65%



# RECONCILIATION BETWEEN RELEVANT TOPICS AND GRI STANDARDS

Material topics	Indicators
Value and economic development for local areas	102-15; 103-1; 103-2; 103-3; 201-1; 201-2; 201-4; 202-2; 203-1; 203-2
Competitiveness	102-15; 103-1; 103-2; 103-3; 203-1; 206-1
Impacts on local areas (suppliers)	102-15; 103-1; 103-2; 103-3; 204-1
Innovation and smart cities	103-1; 103-2; 103-3; 203-2
Energy efficiency, renewable sources and district heating	102-15; 103-1; 103-2; 103-3; 302-1; 302-2; 302-3; 302-4; 302-5
Sustainable use of water resources	102-15; 103-1; 103-2; 103-3; 303-1; 303-2; 303-3; 306-1; 306-5
Biodiversity	103-1; 103-2; 103-3; 304-1; 304-2; 304-3; 304-4
Emissions	102-15; 103-1; 103-2; 103-3; 305-1; 305-2; 305-3; 305-4; 305-5; 305-6; 305-7
Circular economy: management, separated waste collection and reuse of waste	102-15; 103-1; 103-2; 103-3; 306-2;
Responsible management of business segments	102-15; 103-1; 103-2; 103-3; 301-1; 306-3
Sustainable management of the supply chain	102-15; 103-1; 103-2; 103-3; 204-1; 308-1; 308-2; 403-2; 407-1; 408-1; 409-1; 412-3; 414-1; 414-2
Employment	102-15; 103-1; 103-2; 103-3; 201-3; 202-1; 202-2; 401-1; 401-2
Industrial relations	102-15; 103-1; 103-2; 103-3; 402-1; 403-4
Occupational health and safety	102-15; 103-1; 103-2; 103-3; 403-1; 403-2; 403-3; 403-4
Development of human resources	102-15; 103-1; 103-2; 103-3; 404-1; 404-2; 404-3; 406-1; 412-2
Corporate welfare and diversity	102-15; 103-1; 103-2; 103-3; 401-3; 405-1; 405-2; 406-1
Human rights	103-1; 103-2; 103-3; 412-1
Development of local communities	102-15; 103-1; 103-2; 103-3; 203-1; 413-1; 413-2
Environmental education	102-15; 103-1; 103-2; 103-3
Internal and external communication	103-1; 103-2; 103-3
Service levels, customer focus and changes in customer expectations	102-15; 103-1; 103-2; 103-3; 406-1; 416-1; 416-2; 418-1
Efficient and reliable services	102-15; 103-1; 103-2; 103-3
Marketing policies	102-15; 103-1; 103-2; 103-3; 417-2; 417-3
Management of construction sites	103-1; 103-2; 103-3
Management of emergencies	103-1; 103-2; 103-3
Dialogue with Public Authorities	102-15; 103-1; 103-2; 103-3; 415-1
Fight against corruption	103-1; 103-2; 103-3; 205-1; 205-2; 205-3
Compliance with laws and regulations	103-1; 103-2; 103-3; 307-1; 417-2; 417-3; 418-1; 419-1

# REPORT OF THE INDEPENDENT AUDITORS



## **Independent auditor's report on the consolidated non-financial statement**

*pursuant to article 3, paragraph 10, of Legislative Decree N. 254/2016 and to article 5 of CONSOB Regulation N. 20267 adopted by resolution of 18 January 2018*

To the board of directors of  
Iren SpA

Pursuant to article 3, paragraph 10, of Legislative Decree N. 254 of 30 December 2016 (the "Decree") and article 5 of CONSOB Regulation N. 20267, we have performed a limited assurance engagement on the "Sustainability Report 2018 - Consolidated non-financial report pursuant to Legislative Decree 254/2016 (Directive 2014/95/EU)" of Iren SpA and its subsidiaries ("Iren Group" or the "Group") for the year ended 31 December 2018 prepared in accordance with article 4 of the Decree and approved by the Board of Directors on 12 April 2019 (the "NFS").

### **Responsibility of the directors and of the board of statutory auditors for the NFS**

Directors are responsible for the preparation of the NFS in accordance with article 3 and 4 of the Decree and with the "GRI Sustainability Reporting Standards" defined in 2016 ("GRI Standards") and with the "G4 Sector Disclosure – Electric Utilities" of 2013 ("G4 Sector Disclosure"), identified by them as the reporting standards.

Directors are responsible, in the terms prescribed by law, for such internal control as management determines is necessary to enable the preparation of a NFS that is free from material misstatement, whether due to fraud or error.

Directors are responsible for identifying the content of the NFS, within the matters mentioned in article 3, paragraph 1, of the Decree, considering the activities and characteristics of Iren Group and to the extent necessary to ensure an understanding of the Group's activities, its performance, its results and related impacts.

Directors are responsible for defining the business and organisational model of the Group and, with reference to the matters identified and reported in the NFS, for the policies adopted by the Group and for the identification and management of risks generated and/or faced by the Group.

The board of statutory auditors is responsible for overseeing, in the terms prescribed by law, compliance with the Decree.

### **PricewaterhouseCoopers SpA**

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### ***Auditor's Independence and Quality Control***

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italy 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

### ***Auditor's responsibilities***

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the NFS with the Decree, with the GRI Standards and with the G4 Sector Disclosure. We conducted our engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information (hereafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the NFS is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the NFS were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the NFS, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, we performed the following procedures:

1. analysis of the relevant matters reported in the NFS relating to the activities and characteristics of the Group, in order to assess the reasonableness of the selection process used, in accordance with article 3 of the Decree and the with the reporting standard adopted;
2. analysis and assessment of the criteria used to identify the consolidation area, in order to assess their compliance with the Decree;
3. comparison of the financial information reported in the NFS with the information reported in Iren Group's consolidated financial statements;
4. understanding of the following matters:
  - business and organisational model of the Group, with reference to the management of the matters specified by article 3 of the Decree;
  - policies adopted by the Group with reference to the matters specified in article 3 of the Decree, actual results and related key performance indicators;
  - main risks, generated and/or faced by the Group, with reference to the matters specified in article 3 of the Decree.

With reference to those matters, we compared the information obtained with the information presented in the NFS and carried out the procedures described under point 5 a) below;



5. understanding of the processes underlying the preparation, collection and management of the significant qualitative and quantitative information included in the NFS. In particular, we held meetings and interviews with the management of Iren SpA and with the personnel of Iren Ambiente SpA, Ireti SpA, Iren Energia SpA, and we performed limited analyses of documentary evidence, to gather information about the processes and procedures for the collection, consolidation, processing and submission of the non-financial information to the function responsible for the preparation of the NFS.

Moreover, for material information, considering the activities and characteristics of the Group:

- at a Group level,
  - a) with reference to the qualitative information included in the NFS, and in particular to the business model, the policies adopted and the main risks, we carried out interviews and acquired supporting documentation to verify their consistency with available evidence;
  - b) with reference to quantitative information, we performed analytical procedures as well as limited tests, in order to assess, on a sample basis, the accuracy of consolidation of the information;
- for the following companies: Iren SpA at the offices in Turin and Piacenza, Iren Ambiente SpA at the office in Turin and the site of TRM (Turin), Iren Energia SpA at the office in Turin and the site of Torino Nord (Turin), Ireti SpA at the office in Piacenza, which were selected on the basis of their activities, their contribution to the performance indicators at a consolidated level and their location, we carried out site visits during which we met local management and gathered supporting documentation regarding the correct application of the procedures and calculation methods used for the key performance indicators.

### **Conclusions**

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of Iren Group as of 31 December 2018 has not been prepared, in all material respects, in compliance with articles 3 and 4 of the Decree, with the GRI Standards and with the G4 Sector Disclosure.

Turin, 30 April 2019

PricewaterhouseCoopers SpA

*Signed by*

Piero De Lorenzi  
(Partner)

Paolo Bersani  
(Authorized signatory)

*This report has been translated from the Italian original solely for the convenience of international readers. We have not performed any control on the NFS 2018 translation.*



## GLOSSARY

### A

**ARERA** (former AEEGSI, the Authority for Electricity, Gas and Water Service): The Italian Regulatory Authority for Energy, Networks and Environment

**ARPA**: Regional Environmental Agency.

**ATERSIR**: Territorial Agency of Emilia Romagna for Water and Waste Services.

### B

**BEST AVAILABLE TECHNIQUES (BAT)**: "Best Available Techniques" (BAT) to regulate the obligations of industrial operators concerning the prevention and control of pollution.

**BIOGAS**: gas formed by the anaerobic fermentation in the presence of micro-organisms (acidogenic bacteria, acetogenic bacteria and methanobacteria) of industrial and agricultural waste or sludge from urban water treatments; the methane contained in the biogas can be used for energy production.

**BOD**: the term BOD (biochemical oxygen demand) refers to the amount of oxygen consumed during a specific time period (5 days for BOD<sub>5</sub>), at a given temperature, to break down the organic substances present in the water through the action of bacteria (cellular respiration). High biochemical oxygen demand is an indication of intense bacterial activity of organic decomposition and may indicate the presence of organic pollution. It is therefore an indirect measure of the concentration of pollutants. Its value is given in %.

### C

**CIRCUIT**: the set of conductors of a three-phase power line.

**CO**: carbon monoxide.

**CO<sub>2</sub>**: carbon dioxide.

**COD**: the term COD (chemical oxygen demand) is the amount of oxygen required for the complete oxidation of organic and inorganic compounds found in a water sample. It is thus an index that measures the degree of water pollution by oxidisable substances, which are mainly organic. It is given in %.

**CODE OF ETHICS**: this is a document that defines the principles, conduct, commitments and ethical responsibilities that must be adhered by directors, employees and collaborators when conducting company business.

**CO-GENERATION**: the simultaneous production of electricity and useful thermal energy.

**CORPORATE GOVERNANCE**: the set of rules by which a company is managed and controlled.

**CSR**: Corporate Social Responsibility.

### D

**DISTRICT HEATING**: the distance transmission of heat by means of water circulating in two tubes, one in-flow pipe with hot water and one out-flow pipe with cooler water.

### E

**EIA**: Environmental Impact Assessment.

**EMAS (ENVIRONMENTAL MANAGEMENT AND AUDIT SCHEME)**: the environmental management and audit scheme according to Community Regulation 761/2001.

**EMISSION TRADING SYSTEM (ETS)**: the flexible mechanism, provided for by the Kyoto agreements, aimed at allowing emissions rights to be traded between countries or companies depending on their greenhouse gas emission reduction objectives.

**END CUSTOMER**: the natural or legal person who buys electricity exclusively for personal use.

**ENERGY EFFICIENCY BONDS (EEB) (commonly known as White Certificates)**: established by the Decree of the Ministry of Productive Activities (Italian Ministerial Decree 20/7/04), in concert with the Environment Ministry, they attest to the energy savings required of electricity and gas distributors with catchment areas of more than 50,000 customers. THE EEC are valid for five years from the reference year and are issued by the Energy Markets Manager (GME).

**ENERGY SERVICE COMPANY (ESCO)**: Companies whose business activities include energy saving projects and which are accredited as such by ARERA.

**ENERGY SERVICES OPERATOR (GESTORE DEI SERVIZI ELETTRICI - GSE)**: established pursuant to Article 3 of Italian Legislative no. 79/99, this is the joint-stock company that provides incentives for the production of electricity from renewable and similar sources and that handles the qualification of renewable energy plants and their electricity production. Its shares are held by the Ministry for the Treasury.

**ETHICAL INDEXES**: indexes that monitor the performance of a basket of companies according to financial and economic criteria and ethical, environmental or social criteria also.

### G

**GAS TURBINE**: the machine that converts the energy held in steam generated in a boiler or by geothermal steam into the mechanical energy of a rotating axis.

**GIGAJoule (GJ)**: a unit of measurement of energy (of any kind) adopted by the International System (3.6 GJ corresponds to 1 GWh).

**GIGAWATT (GW)**: a unit of measurement of power (of any kind) equivalent 1 million kilowatts.

**GIGAWATT-HOUR (GWh)**: a unit of measurement of energy (of any kind) equivalent to one million kilowatts-hours.

**GREEN BOND**: bonds whose proceeds are used exclusively to finance or

refinance all or part of projects/activities with a clear positive impact on the environment (Eligible Projects/Activities).

**GREEN CERTIFICATES:** Green Certificates are certificates that are issued annually by the GSE (Electricity Services Provider) which certify the production of 1 MWh of energy from renewable sources. Since 2002, pursuant to Italian Decree 79/99, producers and importers have been obliged to feed energy into the grid from renewable sources, in quantities equal to the percentage of the total electricity produced or imported in the previous year from conventional sources (net of exports, internal consumption of the plant and co-generation).

**GREENHOUSE GASES:** gases transparent to solar radiation that do not allow the dispersion of heat from the earth and therefore overheat the atmosphere. In addition to natural greenhouse gases, the main anthropogenic greenhouse gases are carbon dioxide, methane, chlorofluorocarbons and nitrogen oxides.

**GROSS PRODUCTION:** electricity produced in the period of time considered, as measured at the terminals of the electricity generator unit.

## H

**HYDROELECTRIC:** a hydroelectric plant is a plant where the energy potential of water is transformed into electricity. Hydroelectric plants can be flowing water, basin or tanks types.

**HV:** high voltage, i.e. voltages of 132 kV, 220 kV and 380 kV.

## I

**IEA:** Integrated Environmental Authorisation.

**IEC:** Integrated Environmental Centre.

## K

**KILOCALORIE (kcal):** a unit of measurement of heat (thermal energy). One kcal is the amount of heat needed to raise the temperature of one kilo of water by one degree centigrade.

**KILOVOLT (kV):** a unit of measurement of the voltage that is equivalent to 1,000 Volts.

**KILOWATT (kW):** a unit of measurement of power (of any kind) equivalent to 1,000 Watts.

**KILOWATT-HOUR (kWh):** a unit of measurement of energy (of any kind) equivalent to 1,000 Watts per hour.

## L

**LV:** low voltage, i.e. voltages of 220/380 V.

## M

**MBO:** Management By Objectives

**MEGAWATT (MW):** a unit of measurement of power (of any kind) equivalent to one million Watts.

**MEGAWATT-HOUR (MWh):** unit of measurement of energy (of any kind) equivalent to a thousand kilowatts-hours.

**MV:** medium voltage, i.e. voltages between 1 and 30 kV.

## N

**NET PRODUCTION:** gross production minus the electricity consumed in running the generator unit, including the step-up transformer.

**NOTCH:** level on the rating measurement scale.

**NOX:** nitrogen monoxide.

## O

**OHSAS 18001:** the OHSAS 18001 (Occupational Health & Safety Assessment Series) standard is an internationally recognised reference for the certification of a management system for health and safety in the workplace.

## P

**POWER EXCHANGE:** virtual place where supply and demand meet to purchase and sell wholesale electricity. The economic management of the power exchange is entrusted to the Electricity Market Operator (GME) pursuant to Article 5 of Italian Legislative Decree 79/99.

**PRODUCTION CAPACITY:** estimated energy that can be produced by each producer.

**PUMPING:** plant consisting of one or more pumps that circulating fluid within a pipe.

## R

**RENEWABLE ENERGY:** the sun, the wind, water resources, geothermal resources, the seas, wave energy and transforming plant products or organic and inorganic waste into energy.

**RENEWABLE SOURCES:** renewable, non-fossil energy sources (wind, solar, geothermal, wave energy, tidal energy, hydraulic, biomass, waste-dump gas, gas resulting from purification processes and biogas) pursuant to Article 2 of RES Decree.

## S

**SCM:** standard cubic metre.

**SERVICE CHARTER:** company document that establishes the quality standards of company services.

**SECONDARY SOLID FUEL (SSF):** is a type of fuel obtained from the processing of urban and special non-hazardous waste.

**SOCIAL COOPERATIVES:** in accordance with Italian Law 381/91 these are companies that aim to "pursue the general interest of the community in the human development and social integration of citizens" by managing social, health and educational services and running various activities aimed at the employment of disadvantaged people.

**STAKEHOLDERS:** the group of subjects that interact with the company, i.e. any individual, community or organisation that may influence or be influenced by the company's business.

**SUSTAINABLE DEVELOPMENT:** the economic development of a company in the long term via low environmental impact and good relations with the social community.



**SUSTAINABILITY REPORT:** an instrument that accounts for the impacts generated by the company with respect to the three pillars of sustainability: economic, social and environmental.

## T

**TERAWATT-HOUR (TWh):** one billion kilowatt hours.

**THERMOELECTRIC:** an electricity generating plant that uses fossil fuels.

**TOE:** tonnes of oil equivalent; equivalent to the primary fossil energy replaced, i.e. the quantity of fuel otherwise needed to produce the same amount of useful energy within the national reference system.

**TOTAL OUTPUT:** the total amount of electric or thermal energy of the various producers installed in a plant.

**TSS:** the term TSS (Total Suspended Solids) refers to the sum of suspended solids and filterable solids, which cause the turbidity of sewage. It represents all of the substances present in the sample after drying at 105°C. It is given in %.

## U

**UNI EN ISO 9001:** international technical standard for the certification of quality management systems.

**UNI EN ISO 14001:** international technical standard for the certification of environmental management systems.

## V

**VOLT:** unit of measurement of the electrical voltage.

## W

**WASTE:** Italian Legislative Decree no. 152 of 3 April 2006 defines wastes as “any substance or object that falls within the categories set out in Annex A to part four of this Decree and of which the holder discards or has decided or is required to discard”. The same Decree classifies waste, according to its origin, into urban and special waste and, depending on the hazardous characteristics, into hazardous and non-hazardous waste.

**WASTE AND WATER REGULATING AUTHORITY (ATO):** in accordance with Italian Law no. 36 of 1994, the Waste and Water Regulating Authority determines the local level of organisation of the Integrated Water Service in light of the overcoming the fragmentation of management and the attainment of adequate management dimensions; the regional Law defines its boundaries based on the hydrographic basin.

**WATT:** unit of measurement for electric power.



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